

# Service Manual

**ViewSonic VG2021m-1**

**Model No. VS11234**  
**20" Color TFT LCD Display**

**(VG2021m-1\_SM Rev. 1a Apr. 2006)**

**ViewSonic 381 Brea Canyon Road, Walnut, California 91789 USA – (800) 888-8583**

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## **Revision History**

Revision	SM Editing Date	ECR Number	Description of Changes	Editor
1a	04/03/2006		Initial Release	Jamie Chang

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# 1. Precautions and Safety Notices

## 1. Appropriate Operation

- (1) Turn off the product before cleaning.
- (2) Use only a dry soft cloth when cleaning the LCD panel surface.
- (3) Use a soft cloth soaked with mild detergent to clean the display housing.
- (4) Use only a high quality, safety approved AC/DC power cord.
- (5) Disconnect the power plug from the AC outlet if the product will not be used for a long period of time.
- (6) If smoke, abnormal noise, or strange odor is present, immediately switch the LCD display off.
- (7) Do not touch the LCD panel surface with sharp or hard objects.
- (8) Do not place heavy objects on the LCD display, video cable, or power cord.
- (9) Do not use abrasive cleaners, waxes or solvents for your cleaning.
- (10) Do not operate the product under the following conditions:
  - Extremely hot, cold or humid environment.
  - Areas containing excessive dust and dirt.
  - Near any appliance generating a strong magnetic field.
  - In direct sunlight.

## 2. Caution

No modification of any circuit should be attempted. Service work should only be performed after you are thoroughly familiar with all of the following safety checks and servicing guidelines.

## 3. Safety Check

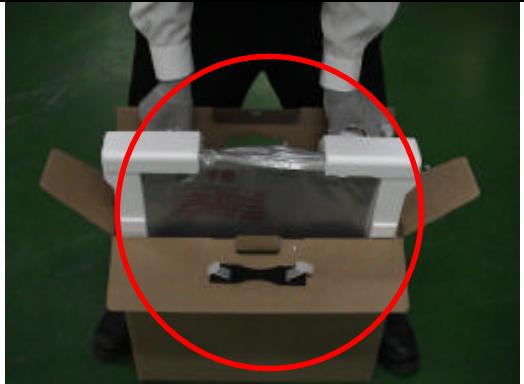
Care should be taken while servicing this LCD display. Because of the high voltage used in the inverter circuit, the voltage is exposed in such areas as the associated transformer circuits.

## 4. LCD Module Handling Precautions

### 4.1 Handling Precautions

- (1) Since front polarizer is easily damaged, pay attention not to scratch it.
- (2) Be sure to turn off power supply when connecting or disconnecting input connector.
- (3) Wipe off water drops immediately. Long contact with water may cause discoloration or spots.
- (4) When the panel surface is soiled, wipe it with absorbent cotton or other soft cloth.
- (5) Since the panel is made of glass, it may break or crack if dropped or bumped on hard surface.
- (6) Since CMOS LSI is used in this module, take care of static electricity and ensure human earth when handling.
- (7) Do not open or modify the Module Assembly.
- (8) Do not press the reflector sheet at the back of the module in any direction.

- (9) In the event that a Module must be put back into the packing container slot after it was taken out of the container, do not press the center of the CCFL Reflector edge. Instead, press at the far ends of the CFL Reflector edge softly. Otherwise the TFT Module may be damaged.
- (10) At the insertion or removal of the Signal Interface Connector, be sure not to rotate or tilt the Interface Connector of the TFT Module.
- (11) After installation of the TFT Module into an enclosure (LCD monitor housing, for example), do not twist or bend the TFT Module even momentarily. When designing the enclosure, it should be taken into consideration that no bending/twisting forces may be applied to the TFT Module from outside. Otherwise the TFT Module may be damaged.
- (12) The cold cathode fluorescent lamp in the LCD contains a small amount of mercury. Please follow local ordinances or regulations for disposal.
- (13) The LCD module contains a small amount of materials having no flammability grade. The LCD module should be supplied with power that complies with the requirements of Limited Power Source (IEC60950 or UL1950), or an exemption should be applied for.
- (14) The LCD module is designed so that the CCFL in it is supplied by a Limited Current Circuit (IEC60950 or UL1950).  
Do not connect the CCFL to a Hazardous Voltage Circuit

<p>Correct methods :</p> <p>Only touch the metal-frame of the panel or the front cover of the monitor.</p> <p>Do not touch the surface of the polarizer .</p>	<p>Incorrect Methods :</p> <p>Surface of the panel is pressed by fingers &amp; this may cause “ MURA “</p>
	
	
<p>Take out the monitor with cushion</p>	<p>Take out the monitor by grasping the LCD panel. That may cause “ MURA “.</p>
	
<p>Place the monitor on a clean &amp; soft foam pad .</p>	<p>Place the monitor on foreign objects . That could scratch the surface of panel</p>
	

## 2. Specification

### INTRODUCTION

	FEATURES	VG2021M-1
TFTLCD PANEL	Size	20.1 "
	Luminance (Typ)	300 cd/m <sup>2</sup>
	Contrast Ratio (Typ)	500:1
	Colors	16.2 M colors
	Response Time (Typ)	8 ms
	Viewing Angle (H/V)	150 / 130 @CR>=10 170/ 150 @CR>= 5
	Recommend resolution	1400 X 1050 @60Hz
Input Signal	Analog (75ohms, 0.7/1.0 Vp-p)	Yes
	Digital	Yes
Sync Compatibility	Separate Sync	Yes
	Composite Sync	No
	Sync on Green	No
Compatibility	PC	Yes
	Power Mac	Yes
	TV Box (NextVision 6)	Yes
Power Voltage	AC 100-240V, 50/60Hz	Yes
Power Consumption	On Mode(Max / Typ)	45 W / 30 W
	Active Off Mode (Max)	1 W
Audio	W	2.5W
Ergonomics	Tilt	-5 ° ~ 20 °
	Swivel ( -xx ° - xx °)	No
	Pivot ( XX ° - XX °)	No
	Height Adjust ( XX-XX mm)	No
OSD Control	[] [ 1 ] [ 2 ] [? ] [? ] [ X]	Yes
Dimension	Physical (W x H x D)	459 x 465 x 205(mm ), 18.1 x18.3x8.1(in)
	Package (W x H x D)	490x510x160 (mm) 19.3 x 20.1 x6.3 (in)
Weight	Physical (lbs / Kg)	13.7 lbs (6.2 kgs )
	Package (lbs / Kg)	16.9 lbs( 7.7 kgs )
Operating Condition	Temperature ( / )	41 -95 / 5 -35
	Humidity (%)	20 % - 80 %
Storage Condition	Temperature ( / )	-4 -131 / -20 -55
	Humidity (%)	20 % - 85 %
Regulation	CB / TCO03/ UL/cUL / FCC-B / ICES 003 / Argentina-TUV/S / NOM / EPA Energy Star / TUV/Ergo / ISO13406-2 / TUV/GS / CE / GOST-R / SASO / BSMI / PSB / C-Tick / MIC / CCC	

### GENERAL specification

Test Resolution & Frequency	"1400 X 1050" @ 60Hz
Test Image Size	Full Size
Contrast and Brightness Controls	Factory Default

## VIDEO INTERFACE

Input Connector(refer the appendix A)	Analog : D-sub 15 , Digital: DVI-D
Default Input Connector	Defaults to the first detected input
Video Cable Strain Relief	Equal to twice the weight of the monitor for five minutes
Video Cable Connector DB-15 Pin out	Compliant DDC 2B
Video Signals	1. Video RGB (Analog): Separate 2. DVI (Digital)
Video Impedance	75 Ohms (Analog), 100 Ohms (Digital)
Maximum PC Video Signal	950 mV with no damage to monitor
Maximum Mac Video Signal	1250 mV with no damage to monitor
Sync Signals	TTL
DDC 1/2B	Compliant with Revision 1.3
Sync Compatibility	Separate Sync
Video Compatibility	Shall be compatible with all PC type computers, Macintosh computers, and after market video cards
Resolution Compatibility	640 x 350, 640 x 480, 720 x 400 * (640 x 400*) 800 x 600, 832 x 624, 1024 x 768, 1152x864, 1280X960, 1280x1024, 1400x1050 * The image vertical size might not be full screen. But the image vertical position should be at the center
Exclusions	Not compatible with interlaced video

## POWER SUPPLY

Internal Power Supply	Part Number: DAC-12M033 AF(DELTA)
Input Voltage Range	90 TO 264 VAC
Input Frequency Range	47.5 TO 63 HERTZ
Short Circuit Protection	Output can be shorted without damage
Over Current Protection	N/A
Leakage Current	3.5mA (Max) at 254VAC / 60Hz
EFFICIENCY	80 % typical at 115VAC Full Load
Fuse	Internal and not user replaceable
Power Dissipation	50 Watts (typ)
Max Input AC Current	1.0Arms @ 90VAC, 0.8 Arms @180VAC
INRUSH CURRENT (COLD START)	30 A @ 120VAC, 60 A(max) @220VAC
Power Supply Cold Start	Shall start and function properly when under full load, with all combinations of input voltage, input frequency, and operating temperature
Power Supply Transient Immunity	Shall be able to withstand an ANSI/IEEE C62.41-1980 6000V 200 ampere ring wave transient test with no damage
Power Supply Line Surge Immunity	Shall be able to withstand 1.5 times nominal line voltage for one cycle with no damage
Power Supply Missing Cycle Immunity	Shall be able to function properly, without reset or visible screen artifacts, when ½ cycle of AC power is randomly missing at nominal input
Power Supply Acoustics	The power supply shall not produce audible noise that would be detectable by the user. Audible shall be defined to be in compliance with ISO 7779 (DIN EN27779:1991) Noise measurements of machines acoustics. Power Switch noise shall not be considered
Power Saving Operation(Method)	VESA DPMS Signaling
Power Consumption	ON Mode < 40 W (max) / 30 W (typ) ACTIVE OFF < 1W
Recovery Time	ON MODE = N/A, ACTIVE OFF < 3 SEC

## ELECTRICAL REQUIREMENT

### Horizontal / Vertical Frequency

Horizontal Frequency	30 – 82 KHZ
Vertical Refresh Rate	56– 76 HZ.
Maximum Pixel Clock	156 MHz
Sync Polarity	Independent of sync polarity.

### Timing Table

Item	Timing	Analog	Digital
1.	640 x 400 @ 70Hz, 31.5kHz	Yes	Yes
2.	640 x 480 @ 60Hz, 31.5kHz	Yes	Yes
3.	640 x 480 @ 67Hz, 35.0kHz	Yes	Yes
4.	640 x 480 @ 72Hz, 37.9kHz	Yes	Yes
5.	640 x 480 @ 75Hz, 37.5kHz	Yes	Yes
6.	720 x 400 @ 70Hz, 31.5kHz	Yes	Yes
7.	800 x 600 @ 56Hz, 35.1kHz	Yes	Yes
8.	800 x 600 @ 60Hz, 37.9kHz	Yes	Yes
9.	800 x 600 @ 75Hz, 46.9kHz	Yes	Yes
10.	800 x 600 @ 72Hz, 48.1kHz	Yes	Yes
11.	832 x 624 @ 75Hz, 49.7kHz	Yes	Yes
12.	1024 x 768 @ 60Hz, 48.4kHz	Yes	Yes
13.	1024 x 768 @ 70Hz, 56.5kHz	Yes	Yes
14.	1152X 864 @75Hz, 67.5kHz	Yes	Yes
15.	1152X 870 @75Hz, 70.8kHz	Yes	Yes
16.	1024 x 768 @ 75Hz, 60.0kHz	Yes	Yes
17.	1280 x 1024 @ 60Hz, 63.4kHz	Yes	Yes
18.	1280 x 1024 @ 75Hz, 79.97kHz	Yes	Yes
19.	1400x 1050 @ 60Hz, 65.3kHz	Yes	Yes

### Primary Presets

“1400 x 1050” @ 60Hz

### User Presets

Number of User Presets (recognized timings) Available: 10 presets total in FIFO configuration

### Changing Modes

- Maximum Mode Change Blank Time for image stability : 3 seconds (Max), excluding “Auto Adjust” time
- Under DOS mode (640 x 350, 720 x 400 & 640 x 400), it should recall factory setting when execute “Auto Adjust”
- The monitor needs to do “Auto Adjust” the first time a new mode is detected
- (see section “0-Touch™ Function Actions”)
- While running Change Mode, Auto Adjust or Memory Recall, the image shall blank

## Panel Characteristics:

1 <sup>st</sup> Source Panel	A201P1
Type	“TN Technology”
Active Size	408.24 (H) x 306.18(V)
Pixel Arrangement	RGB Vertical Stripe
Pixel Pitch	0.2916 mm
GLASS TREATMENT	Anti Glare (Hard coating 3H)
# OF BACKLIGHTS	4 CCFL edge-light (2 top / 2 bottom)
BACKLIGHT LIFE	50,000 Hours (Min)
Luminance – Condition: CT = 6500K, Contrast = Max, Brightness = Max	300 cd/m <sup>2</sup> (Typ after 30 minute warm up) 200 cd/m <sup>2</sup> (Min after 30 minute warm up)
Brightness Uniformity	77%(typ); 67% (min)
Contrast Ratio	500:1 (Typ), 350:1 (Min)
Color Depth	16.2 million colors (6 bit +FRC panel)
Viewing Angle (Horizontal/ vertical)	150/130 (typ), 130/110(min) @ CR>10, 170/150 (typ), 150/130 (min) @ CR>5
Response Time 10%-90% @ Ta=25°C	8 ms (Tr= 2 ms, Tf = 6 ms) (Typ) 18 ms (Tr= 7 ms, Tf = 11 ms) (Max)
Panel Defects	Please see Panel Quality Specifications.

## IMAGE PERFORMANCE

### Factory Defaults

Item	Defaults	Item	Defaults
Contrast	70%	Sharpness	100%
Brightness	100%	OSD H. Position	50%
Volume	50%	OSD V. Position	50%
Balance	N/A	OSD Time Out	15 Sec
Bass	N/A	OSD Background	On
Treble	N/A	OSD PIVOT	N/A
Color Temperature	6500K	Resolution Notice	on
		720x400/640x400	720x400

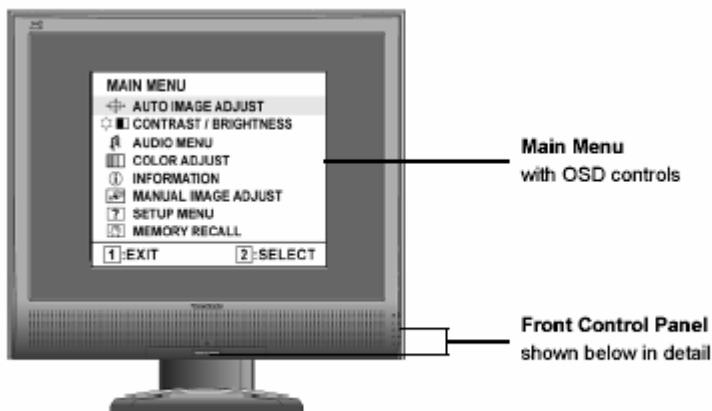
### Display Size

Horizontal Display Size, Primary Preset	Full Screen
Vertical Display Size, Primary Preset	Full Screen

### 3. Front Panel Function Control Description

#### Adjusting the Screen Image

Use the buttons on the front control panel to display and adjust the OSD controls which display on the screen.



Power light



Blue = ON

Orange = Power Saving

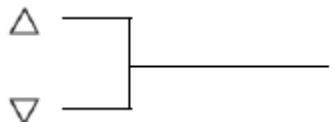
Standby Power On/Off



Audio Mute button turns the sound off

1 \_\_\_\_\_

Displays the Main Menu or exits the control screen and saves adjustments.



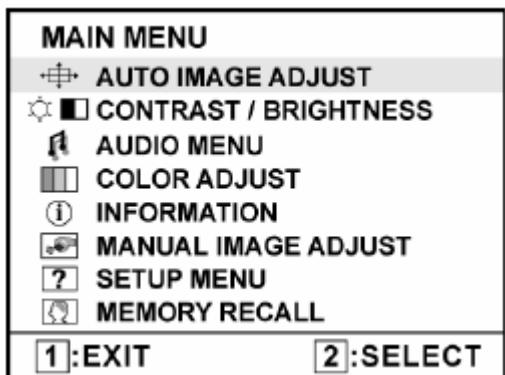
Scrolls through menu options and adjusts the displayed control.  
Also a shortcut to display the Contrast adjustment control screen.

2 \_\_\_\_\_

Displays the control screen for the highlighted control.  
Also toggles between two controls on some screens.

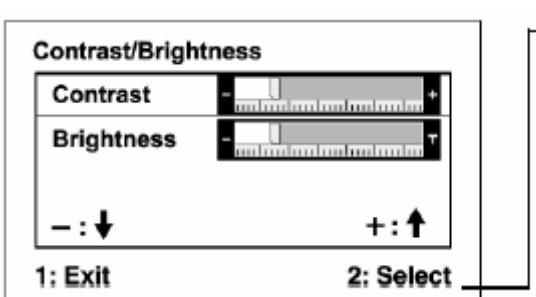
## Do the following to adjust the screen image:

1. To display the Main Menu, press button [1].



**NOTE:** All On View menus and adjustment screens disappear automatically after about 15 seconds. This is adjustable through the OSD timeout setting in the setup menu.

2. To select a control you want to adjust, press **▲** or **▼** to scroll up or down the Main Menu.
3. After the control is selected, press button [2]. A control screen like the one shown below appears.



The command line at the bottom of the control screen tells what to do next from this screen. You can toggle between control screens, adjust the selected option, or exit the screen.

4. To adjust the setting, press the up **▲** or down **▼** buttons.
5. To save the adjustments and exit the menu, press button [1] *twice*.

## The following tips may help you optimize your display:

- Adjust the computer's graphics card so that it outputs a 1400 x 1050 @ 60Hz video signal to the LCD display. (Look for instructions on "changing the refresh rate" in the graphics card's user guide.)
- If necessary, make small adjustments using H. POSITION and V. POSITION until the screen image is completely visible. (The black border around the edge of the screen should barely touch the illuminated "active area" of the LCD display.)

## Main Menu Controls

Adjust the menu items shown below by using the up **▲** and down **▼** buttons.

### Control Explanation

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**Auto Image Adjust** sizes and centers the screen image automatically.



**Contrast** adjusts the difference between the image background (black level) and the foreground (white level).



**Brightness** adjusts background black level of the screen image.



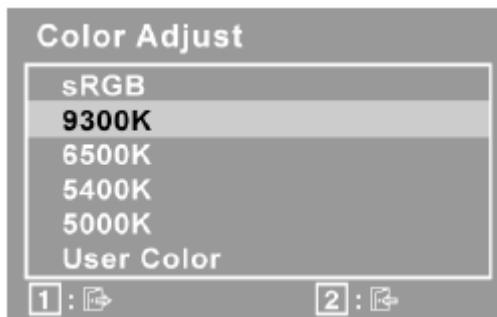
**Audio Adjust**

**Volume** increases the volume, decreases the volume, and mutes the audio.

**Mute** temporarily silences audio output.



**Color Adjust** provides several color adjustment modes, including preset color temperatures and a User Color mode which allows independent adjustment of red (R), green (G), and blue (B). The factory setting for this product is 6500K (6500 Kelvin).



**sRGB**-This is quickly becoming the industry standard for color management, with support being included in many of the latest applications. Enabling this setting allows the LCD display to more accurately display colors the way they were originally intended. Enabling the sRGB setting will cause the Contrast and Brightness adjustments to be disabled.

**9300K**-Adds blue to the screen image for cooler white (used in most office settings with fluorescent lighting).

**6500K**-Adds red to the screen image for warmer white and richer red.

**5400K**-Adds green to the screen image for a darker color.

**5000K**-Adds blue and green to the screen image for a darker color.

**User Color** Individual adjustments for red (R), green (G), and blue (B).

1. To select color (R, G or B) press button [2].

2. To adjust selected color, press **▲** and **▼**

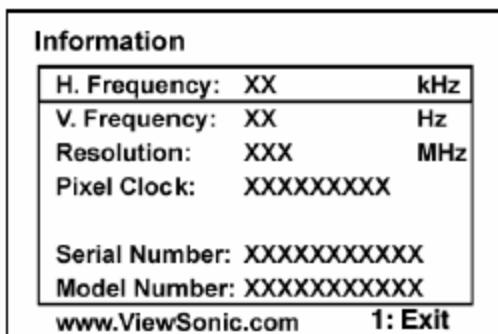
**Important:** If you select RECALL from the Main Menu when the product is set to a Preset Timing Mode, colors return to the 6500K factory preset.

## Control Explanation

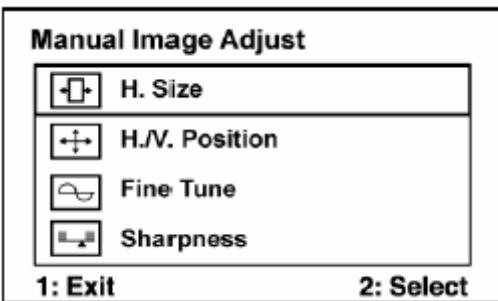


**Information** displays the timing mode (video signal input) coming from the graphics card in the computer, the LCD model number, the serial number, and the ViewSonic® website URL. See your graphics card's user guide for instructions on changing the resolution and refresh rate (vertical frequency).

**NOTE:** VESA 1400 x 1050 @ 60Hz (recommended) means that the resolution is 1400 x 1050 and the refresh rate is 60 Hertz.



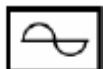
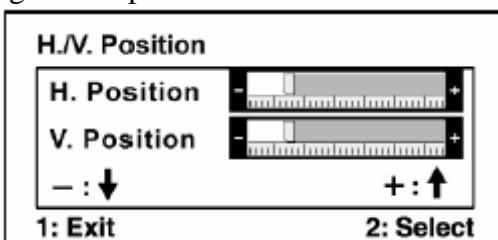
### Manual Image Adjust Sub-menu



**H. Size (Horizontal Size)** adjusts the width of the screen image.

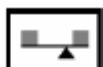


**H./V. Position (Horizontal/Vertical Position)** moves the screen image left or right and up or down.

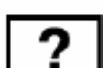


**Fine Tune** sharpens the focus by aligning text and/or graphics with pixel boundaries.

**NOTE:** Try Auto Image Adjust first.



**Sharpness** adjusts the clarity and focus of the screen image.



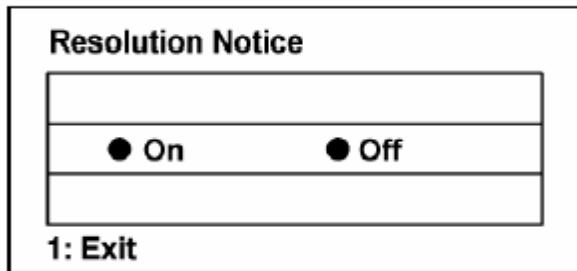
**Setup Menu** displays the menu shown below



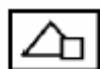
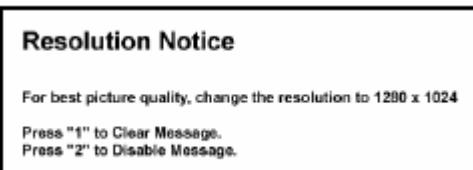
**Language Select** allows the user to choose the language used in the menus and control screens.



**Resolution Notice** allows the user to enable or disable this notice.



If you enable the Resolution Notice shown above and your computer is set at a resolution other than 1400 x 1050, the following screen appears.



**OSD Position** allows the user to move the OSD menus and control screens.



**OSD Timeout** sets the length of time the OSD screen is displayed. For example, with a “30 second” setting, if a control is not pushed within 30 seconds, the display screen disappears.



**OSD Background** allows the user to turn the OSD background On or Off.

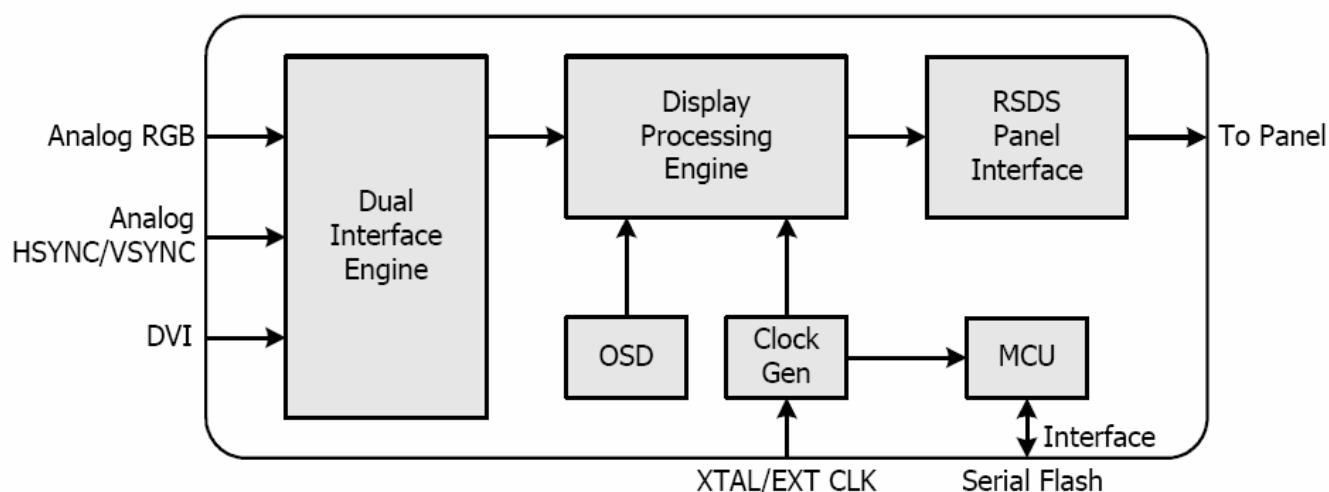


**Memory Recall** returns the adjustments back to factory settings if the display is operating in a factory Preset Timing Mode listed in the Specifications of this manual.

## 4. Circuit Description

The TSUM57AK is total solution graphics processing IC for LCD monitors with panel resolutions up to SXGA. It is configured with a high-speed integrated triple-ADC/PLL, an integrated DVI receiver, a high quality display processing engine, and an integrated output display interface that can support RSDS panel interface format. To further reduce system costs, the TSUM57AK also integrates intelligent power management control capability for green-mode requirements and spread-spectrum support for EMI management.

The TSUM57AK incorporates the world's first coherent oversampled RGB graphics ADC in a monitor controller system. The oversampling ADC samples the input RGB signals at a frequency that is much higher than the signal source pixel rate. This can preserve details in the video signal that ordinarily would be lost due to input signal jitter or bandwidth limitations in non-oversampled systems. The TSUM57AK also incorporates a new Dynamic Frame Rate (DFR) generator for the digital output video to the display panel that preserves the advantages of a fixed output clock rate, while eliminating the output end of frame short-line.



## 5. Adjustment Procedure

### A. Function Test and Alignment Procedure

#### 1. All Modes Reset

You should do “All Model Reset” (Refer to Chap 3. Hot Keys for Function Controls) first. This action will allow you to erase all end-user’s settings and restore the factory defaults.

#### 2. Auto Image Adjust

The Auto Adjust is aimed to offer a best screen quality by built-in ASIC. For optimum screen quality, the user has to adjust each function manually.

- A. Turn the computer and LCD monitor on.
- B. Press the ‘Auto’ button on monitor keypad to Auto Adjust.
- C. The LCD monitor will start the Auto Adjust process automatically and run for 10 consecutive seconds, during which time you will notice the image change.

#### 3. Firmware

**Test Pattern: Burn in Model (Refer to Chap3. Hot Keys for Function Control)**

-Make sure the F/W is the latest version.

#### 4. DCC

**Test Pattern: EDID program**

-Make sure it can pass test program.

#### 5. Window Shut Down

**Test Signal: 1400\*1050@60Hz**

**Test Pattern:**



Checkered Pattern Every One Pixel (50%Green & 50%Blue)

**Inspection Item: Flicker, Mura**

#### 6. Window BG

**Test Signal: 1400\*1050@60Hz**

**Test Pattern:**



Window standard pattern

**Inspection Item: Line Defect, Function Defect & Mura**

#### 7. 25 Gray

**Test Signal: 1400\*1050@60Hz**

**Test Pattern:**



Full Screen 25% White (Gray)

**Inspection Item: Particle, Line Defect & Mura**

## 8. 50 Gray

Test Signal: 1400\*1050@60Hz

Test Pattern:



Full Screen 50% White (Gray)

Inspection Item: Bright Dot, Particle, Line Defect & Mura

## 9. White Box

Test Signal: 1400\*1050@60Hz

Test Pattern:



Window standard pattern

Inspection Item: Particle, Line Defect, Power, Image Remain & Mura

## 10. Black Box

Test Signal: 1400\*1050@60Hz

Test Pattern:



Window standard pattern

Inspection Item: Bright Dot, Line Defect & Power

## 11. RED

Test Signal: 1400\*1050@60Hz

Test Pattern:



Full Screen Red

Inspection Item: Bright Dot, Partial & Line Defect

## 12. Green

Test Signal: 1400\*1050@60Hz

Test Pattern:



Full Screen Green

Inspection Item: Bright Dot, Partial & Line Defect

## 13. Blue

Test Signal: 1400\*1050@60Hz

Test Pattern:



Full Screen Green

Inspection Item: Bright Dot, Partial & Line Defect

#### 14. Gray\_Scale\_0-100\_V64

Test Signal: 1400\*1050@60Hz

Test Pattern:



Vertical 64 (256) Gray Scale (Right Left , From 0 to 100% White)

Inspection Item: Line Defect & Function Defect

#### 15. Function Test Display pattern

Item	Pattern	Description	Remark
1	Gray_Scale_0-100_V	Vertical 64 (256) Gray Scale (right left , From 0 to 100% White)	Figure 1
2	Gray_Scale_0-100_H	Horizontal 64 (256) Gray Scale (up down , From 0 to 100% White)	Figure 2
3	Black	Full Screen Black	Figure 3
4	Red	Full Screen 50% Red	Figure 4
5	Green	Full Screen 50% Green	Figure 5
6	Blue	Full Screen 50% Blue	Figure 6
7	White	Full Screen White	Figure 7
8	Black_Tile	Black Tile Under White Background	Figure 8

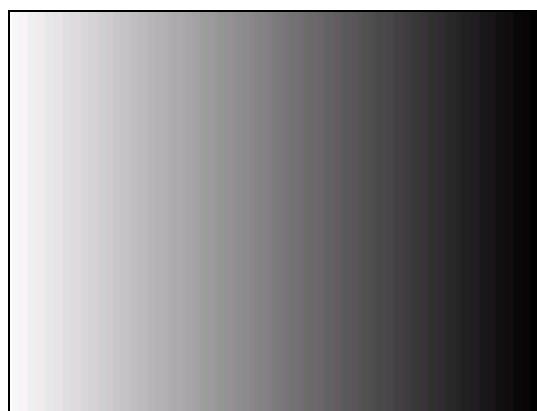


Figure 1

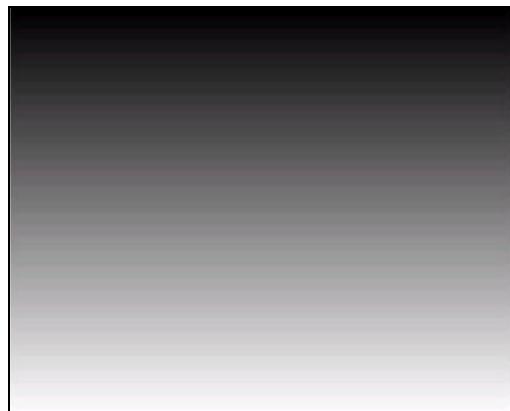


Figure 2

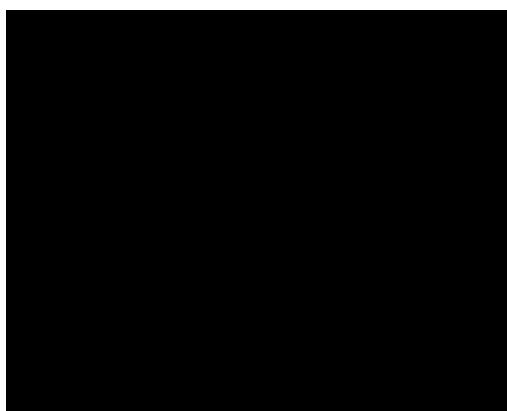


Figure 3



Figure 4



Figure 5



Figure 6

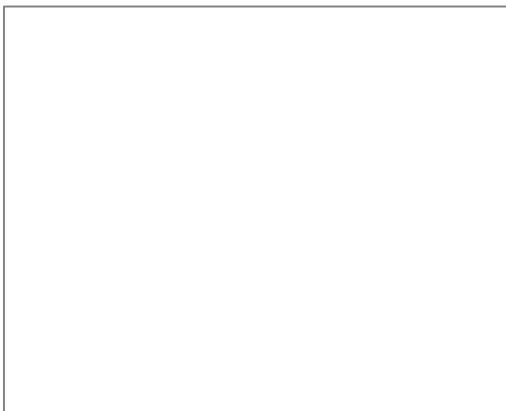


Figure 7

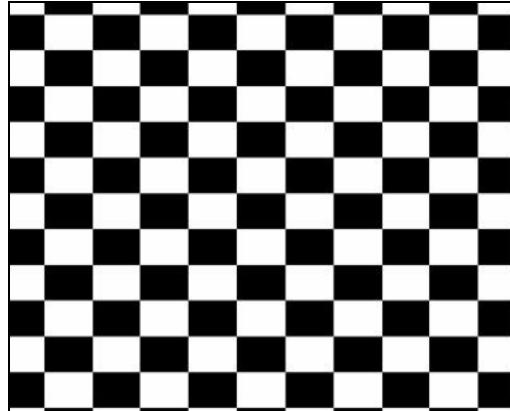


Figure 8

## BIOS update procedure

### 1. To setup ISP environment

#### Hardware:

PC or Notebook , Parallel(Printer) cable , ISP tool( Fig 1)

#### Software:

ISP driver .

If the O.S. was Win2000 or Win XP please have to install

**POR95NT.exe**



Fig1

In order to ensure can execute ISP program, please set BIOS in PC or Notebook as Fig 2

<b>Onboard FDC Controller</b>	<b>: Enabled</b>
<b>Onboard FDC Swap A &amp; B</b>	<b>: No Swap</b>
<b>Onboard Serial Port 1</b>	<b>: 3F8H/IRQ4</b>
<b>Onboard Serial Port 2</b>	<b>: 2F8H/IRQ3</b>
<b>Onboard Parallel Port</b>	<b>: 378H/IRQ7</b>
<b>Parallel Port Mode</b>	<b>: ECP+EPP</b>
<b>ECP DMA Select</b>	<b>: 3</b>
<b>UART2 Use Infrared</b>	<b>: Disabled</b>
<b>Onboard PCI IDE Enable</b>	<b>: Both</b>
<b>IDE Ultra DMA Mode</b>	<b>: Auto</b>
<b>IDE0 Master PIO/DMA Mode</b>	<b>: Auto</b>
<b>IDE0 Slave PIO/DMA Mode</b>	<b>: Auto</b>

Fig 2

## 2. Install ISP

2.1 User could download ISP driver and PORT95NT install file from Myson Century website (<http://www.myson.com.tw> )

2.2 After extracting the zip file, the total files list as Fig 2.2, and double click the file of setup.exe to install.

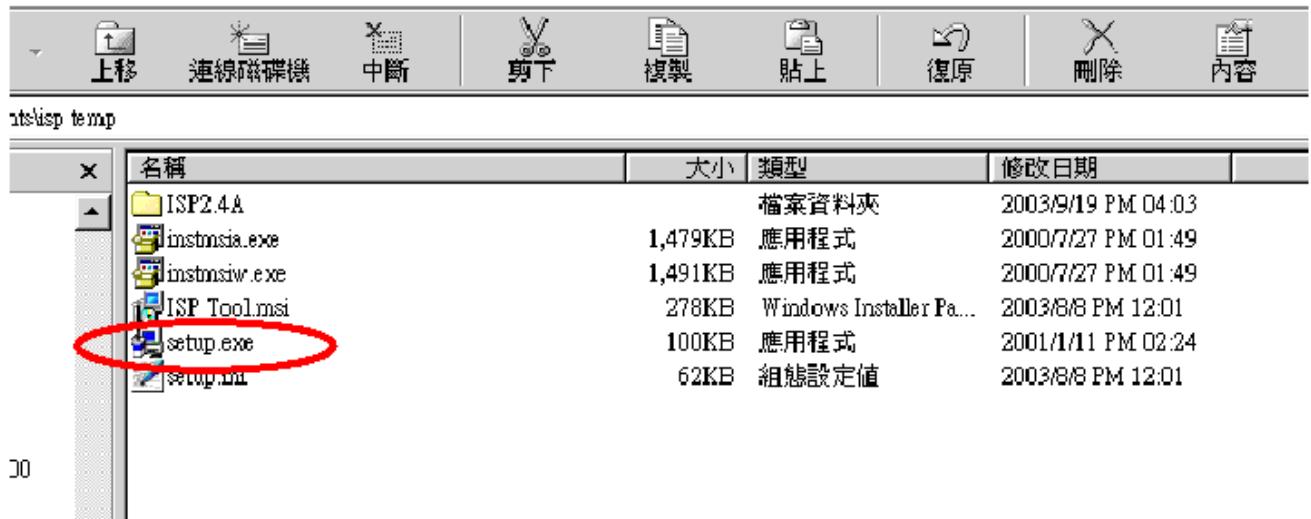


Fig 2.2

2.3 Press "Next" button to continue., see Fig 2.3

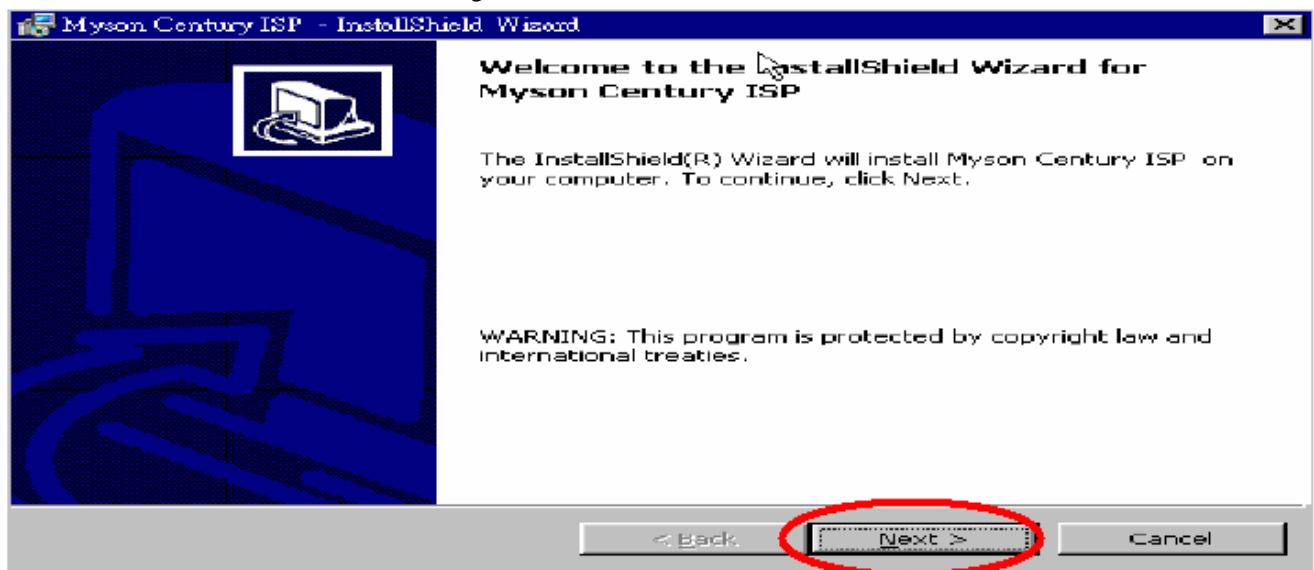


Fig 2.3

2.4 Keep default setting or press " Change " button for selecting the path that you want , and then press " Next " button to continue, see Fig 2.4.

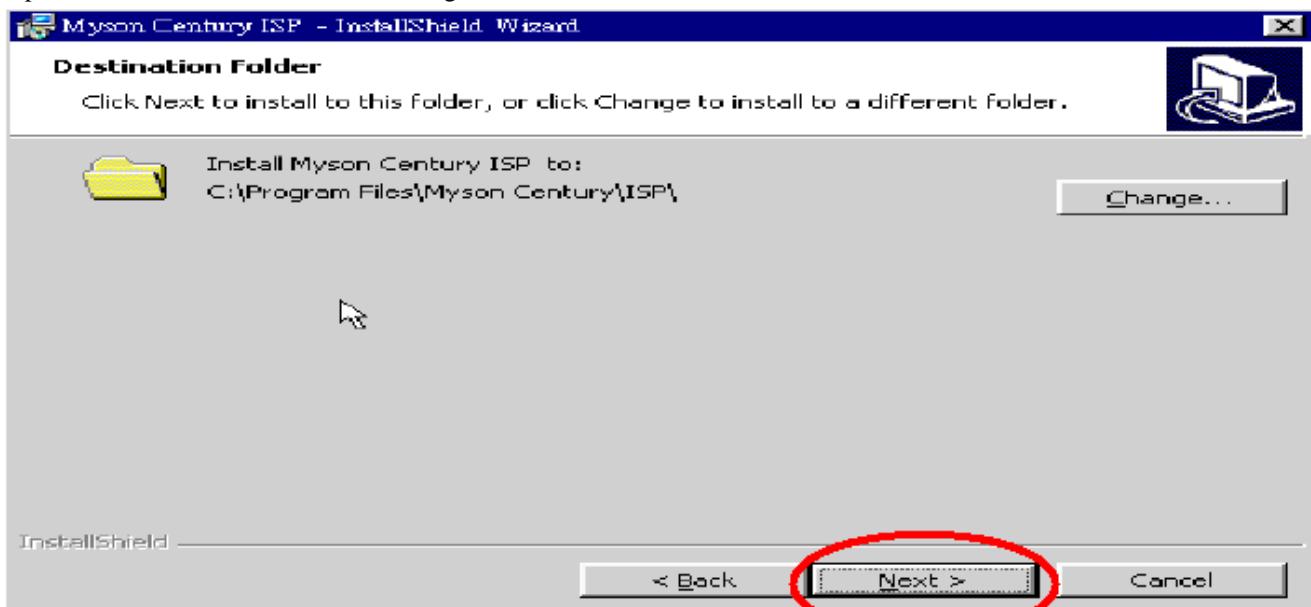


Fig 2.4

2.5 Press " Install " button to continue, see Fig 2.5

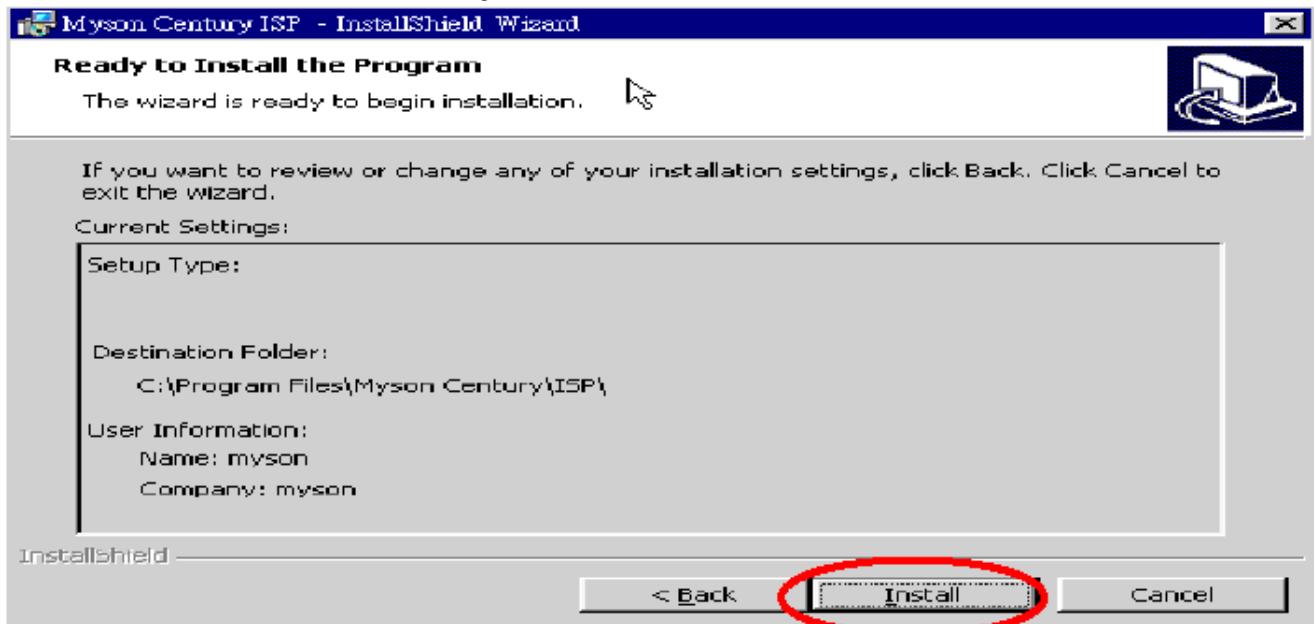


Fig 2.5

2.6 The Installer Information shows package warning, press "Ignore" button to continue, see Fig 2.6.

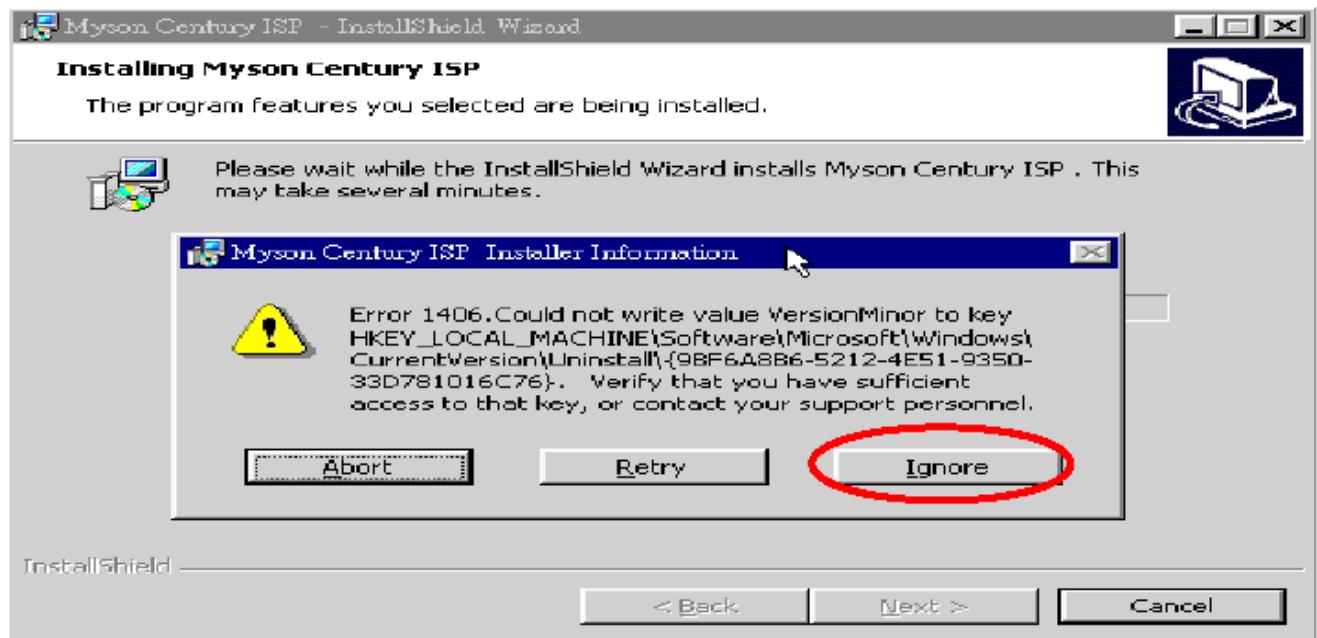


Fig 2.6

2.7 Installation has finished, press "Finish" button, see Fig 2.7.



Fig 2.7

### 3. ISP security code

3.1 After installation, we could find the shortcut in the setting path or the program bar (default setting), see Fig 3.1.

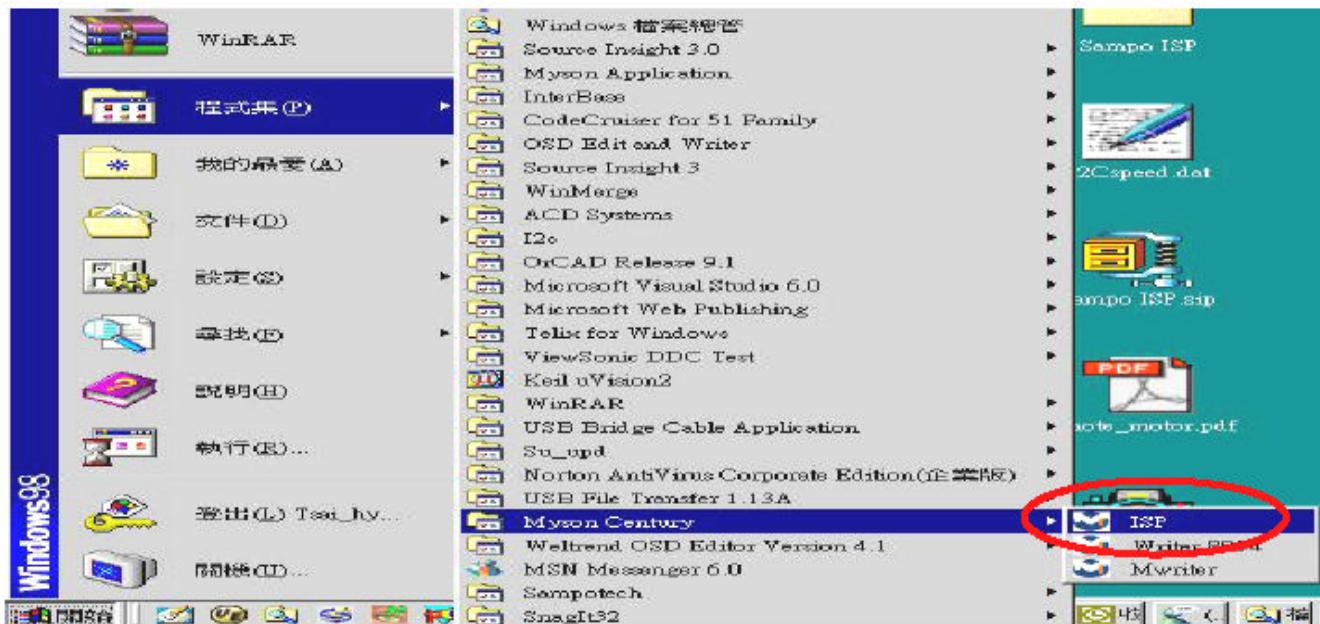


Fig 3.1

2.2 Security file is a key to use ISP function, press “確定” button, see Fig 3.2.

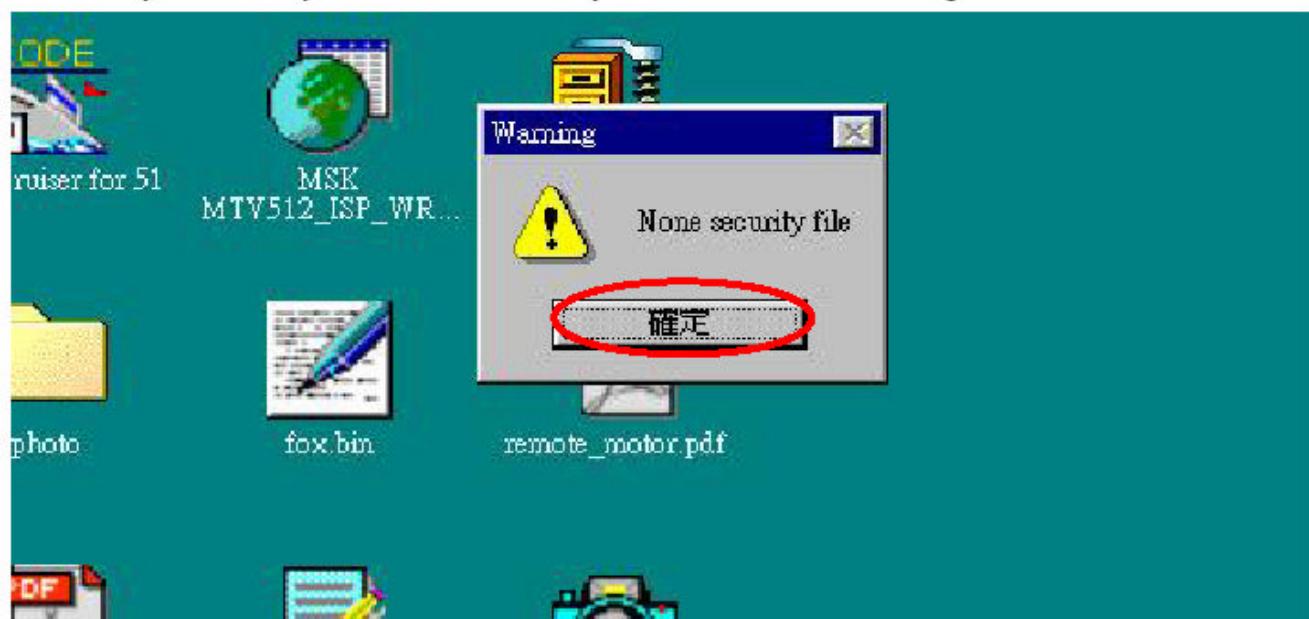


Fig 3.2

3.3 The warning is used to remind user of that different CPU rate may cause ISP function fail(it is limited by IIC protocol), press “確定” button, see Fig 3.3.

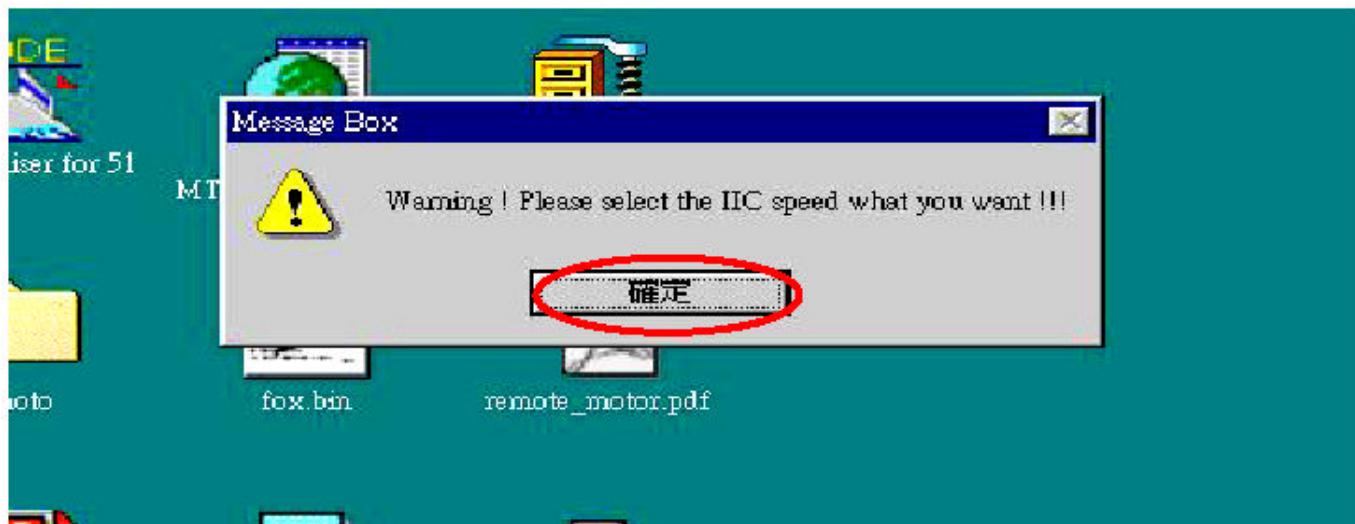


Fig 3.3

2.4 Press “Create Security File” button to key in **security code**. Adjusting bar to decrease **speed of IIC bus**, see Fig 3.4.

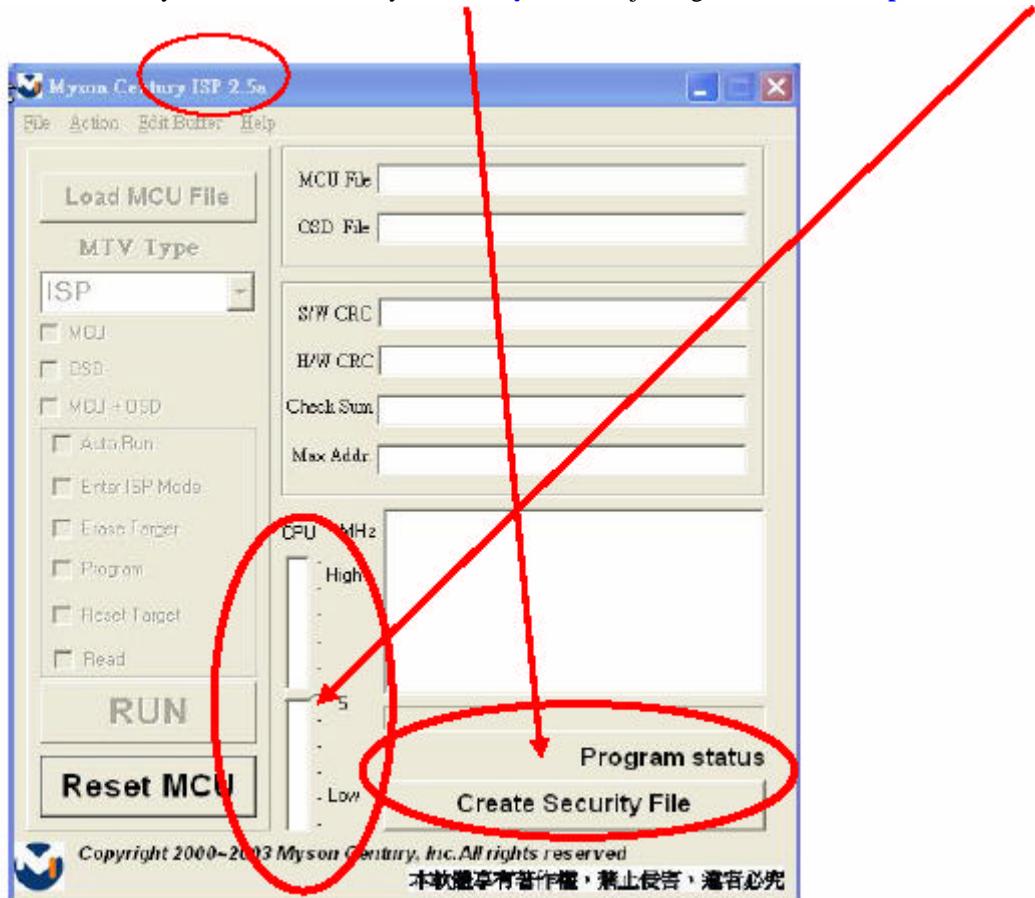


Fig 3.4

3.5 At least 2 Command No of security code, see Fig 3.5, and different security code between hardware ISP and software ISP. The security code of software ISP is set by user while coding, but the security code of hardware ISP is set by Myson Century.

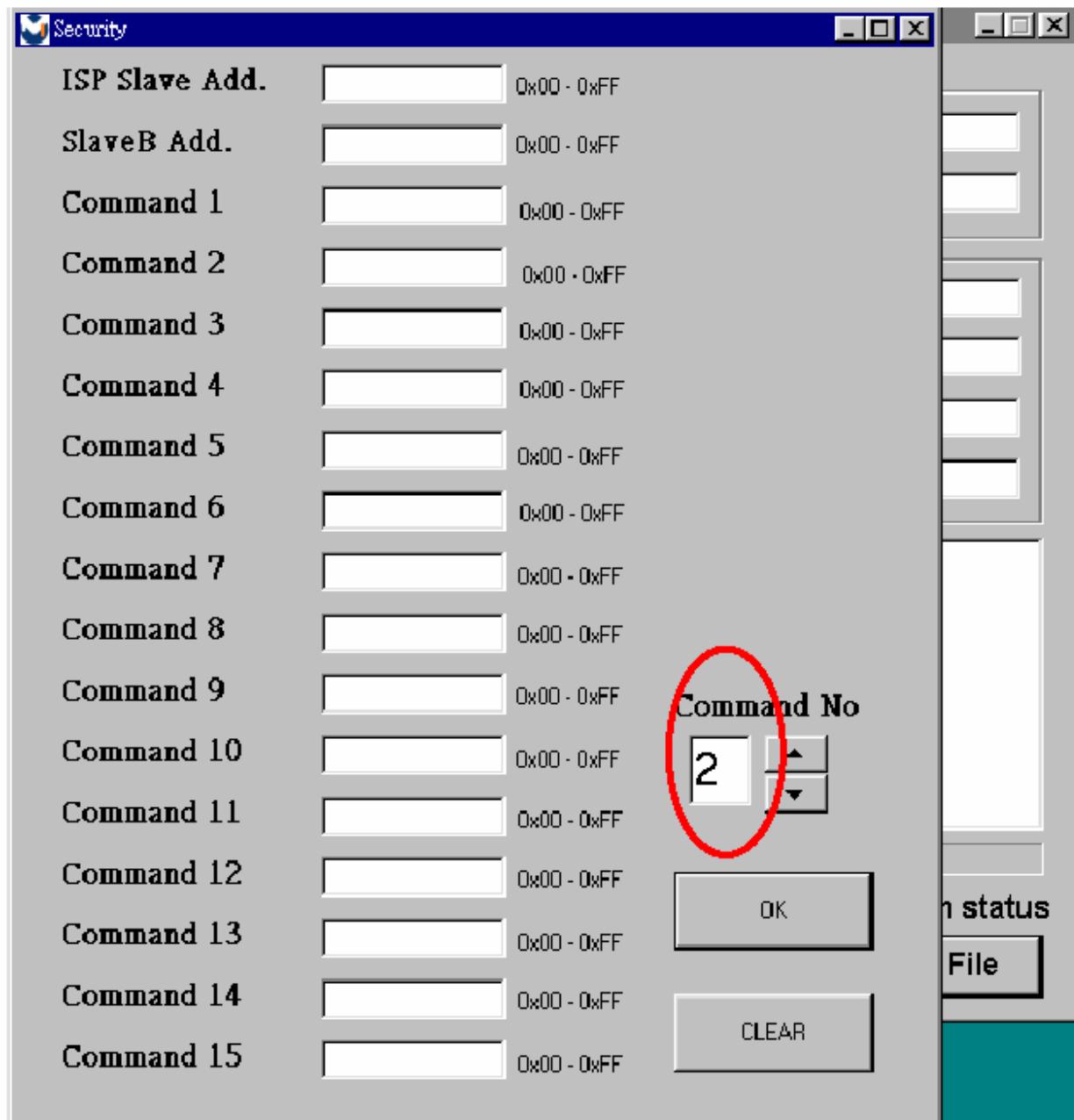


Fig 3.5

3.6 Fig 3.6 shows the setting for security code of **hardware ISP**, it needs **4** Command No, and key in command sequentially for **94, 94, AC, CA, 53**.

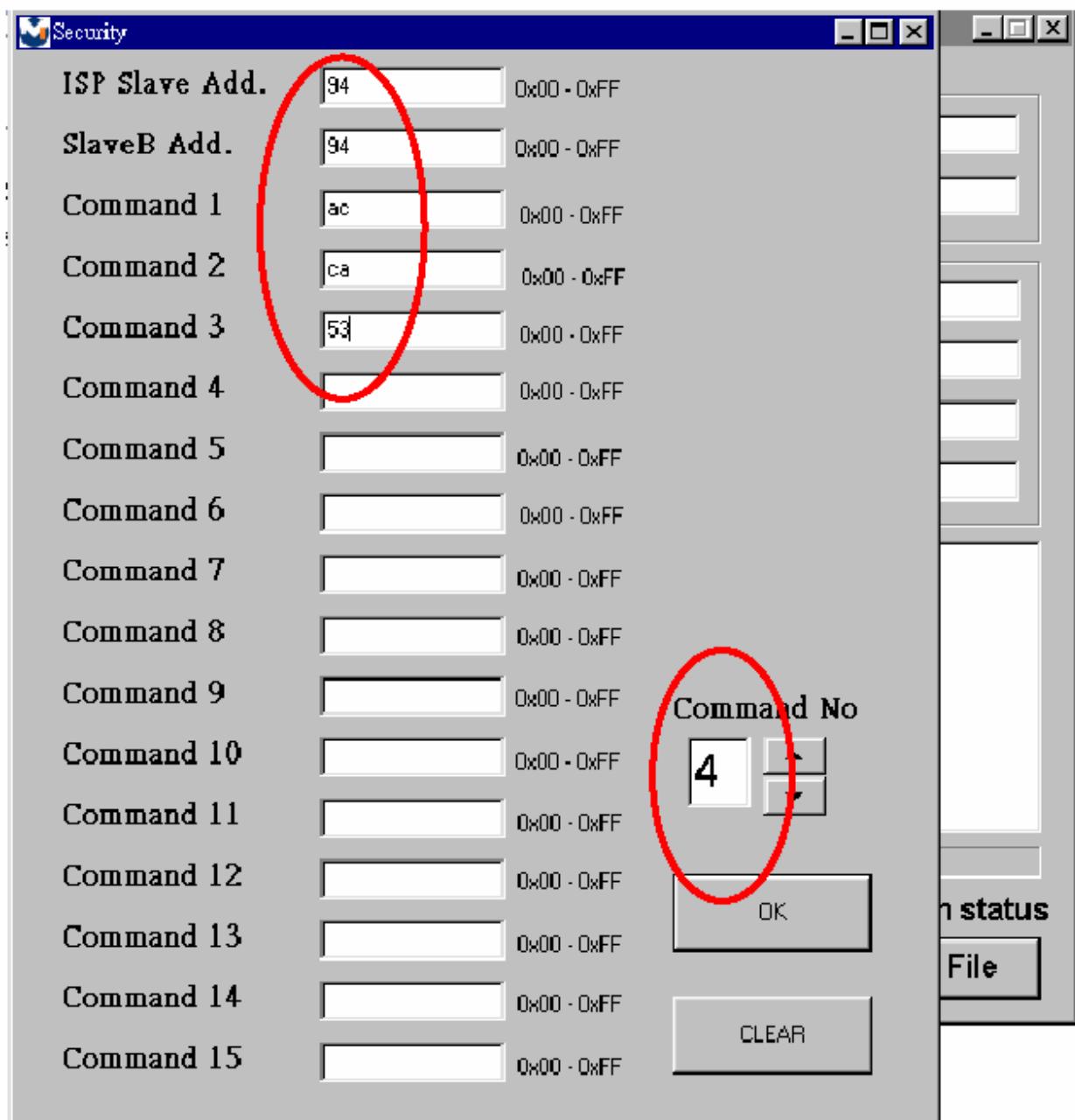


Fig 3.6

3.7 Fig 3.7 shows the setting for security code of **software ISP**, it needs **2** Command No, and key in command sequentially for **7C, 4C, 77**. The Command No and command must be set by user while coding. About the detail of setting, please refer to Section 6 Boot code of ISP.

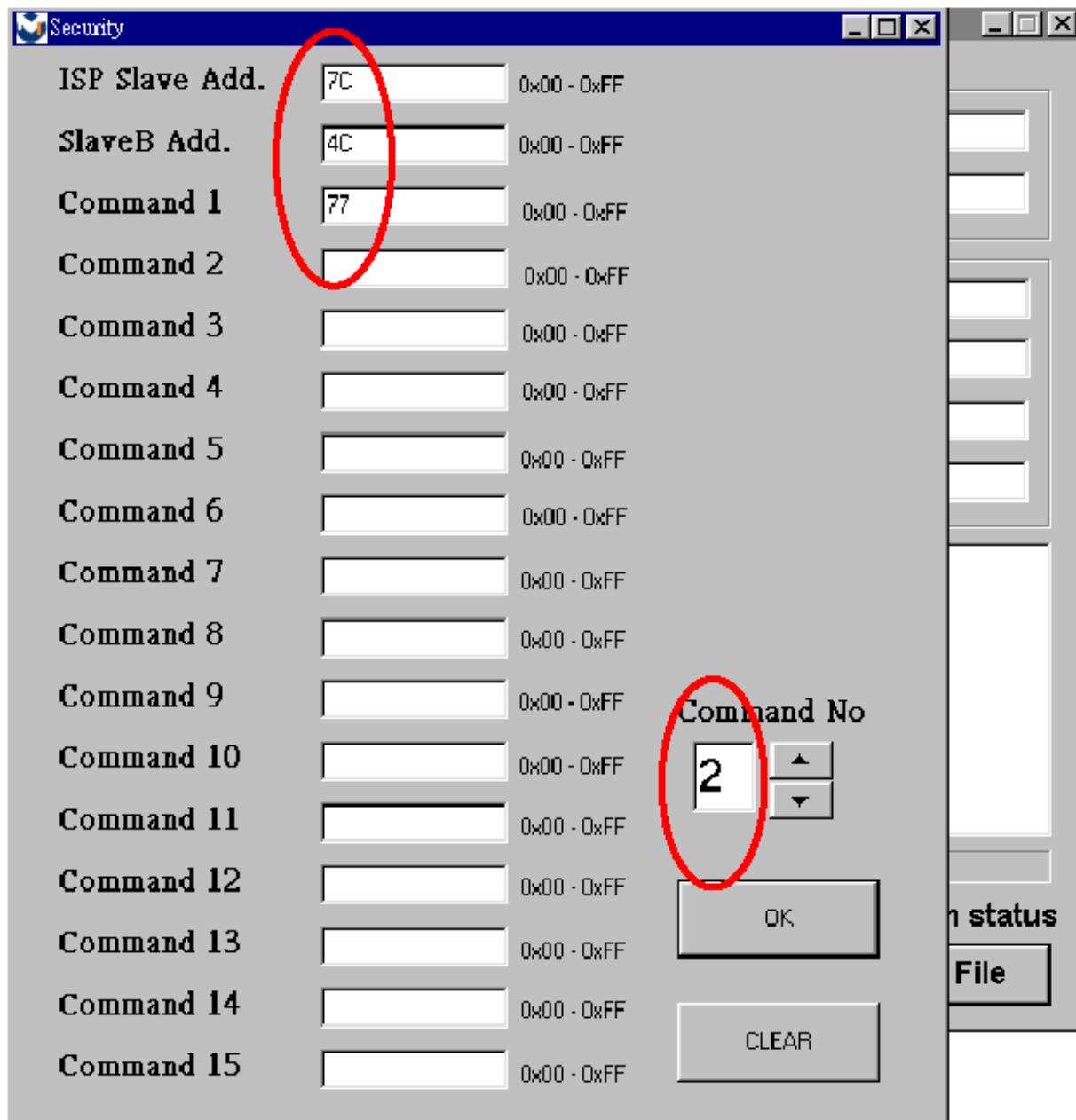


Fig 3.7

#### 4. Use ISP to program MCU

4.1 elect MTV type first, load the binary or Intel hex file that you want to program into the MCU, and select "Auto" item, then press "RUN" button, see Fig 4.1.

4.2 if user changes the MTV type, it must load file again, or the buffer of load file will be cleared.

4.3 RC (cyclic redundancy check): the host can check CRC register 's result instead of reading every byte in flash. The message of Check MCU CRC OK means that the Host verify ok for the progress of program.

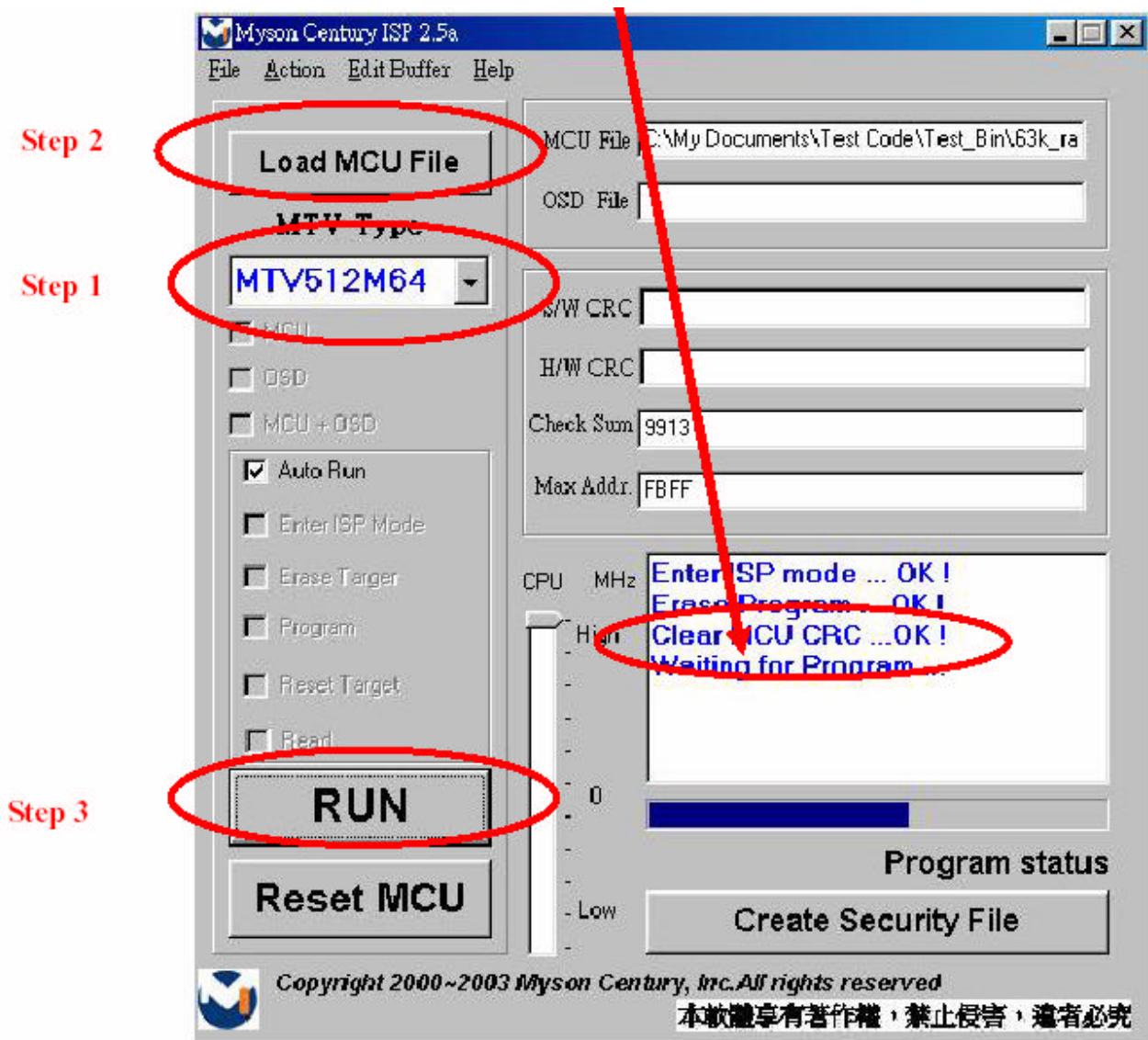


Fig 4.1

## 5 Use ISP to read MCU content

5.1 Only software ISP could read the MCU content, it is according to program the boot code while coding. The limitation is used for the security of customer's code. Select "Read Target" item, and press "RUN" button, the MCU content will show as Fig 5.1.

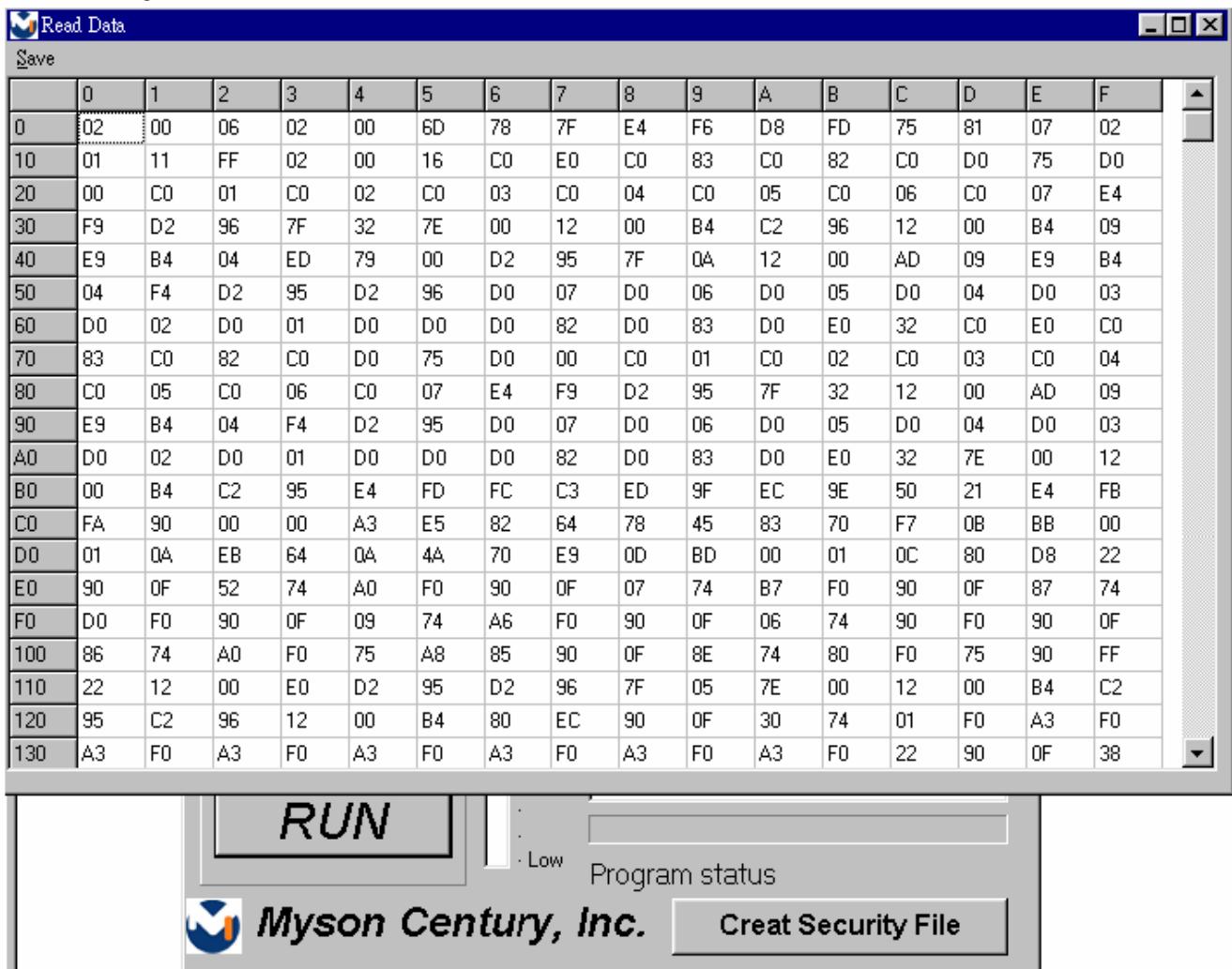


Fig 5.1

5.2 If user uses hardware ISP to read MCU content, it shows as Fig 5.2.

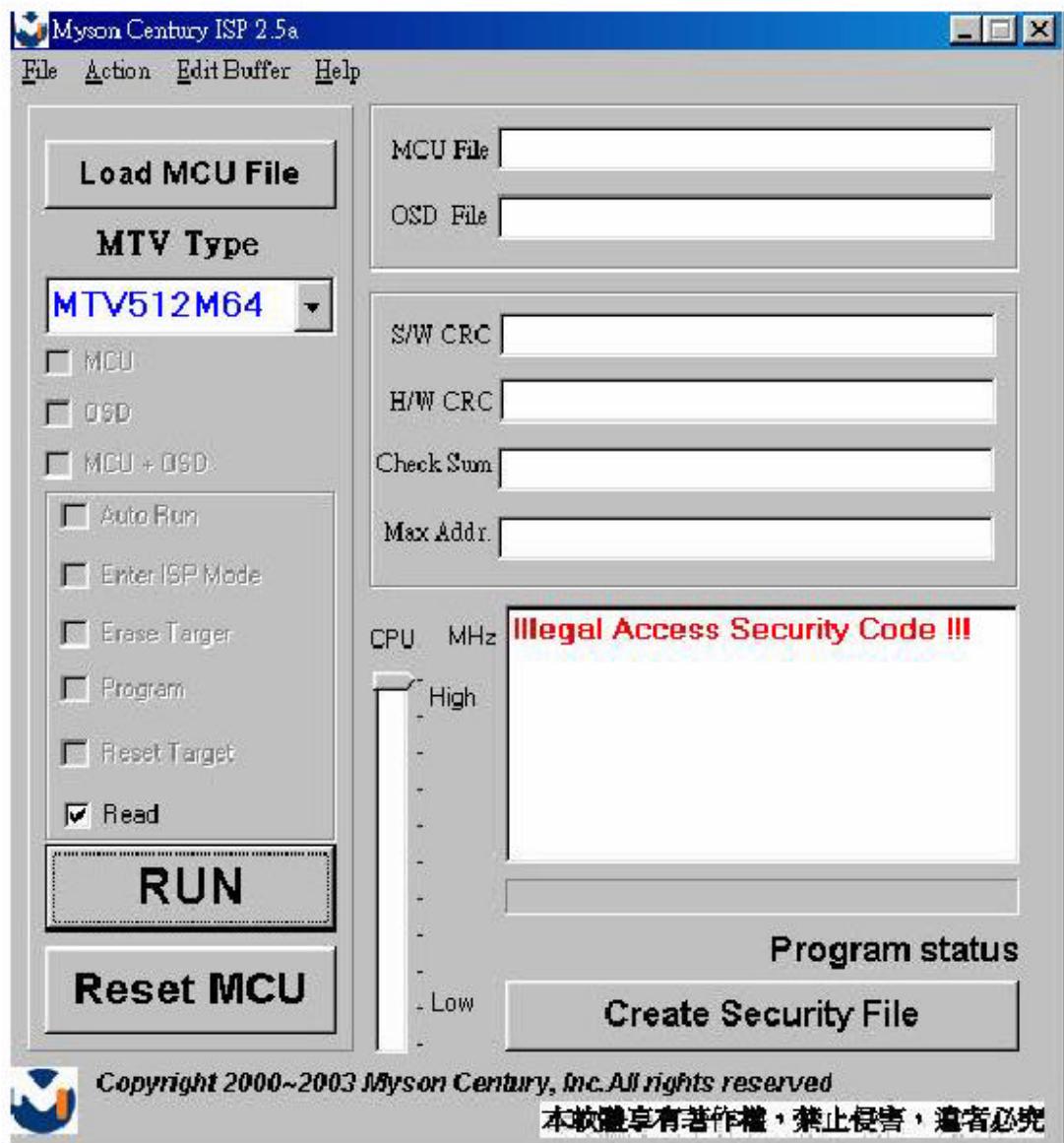
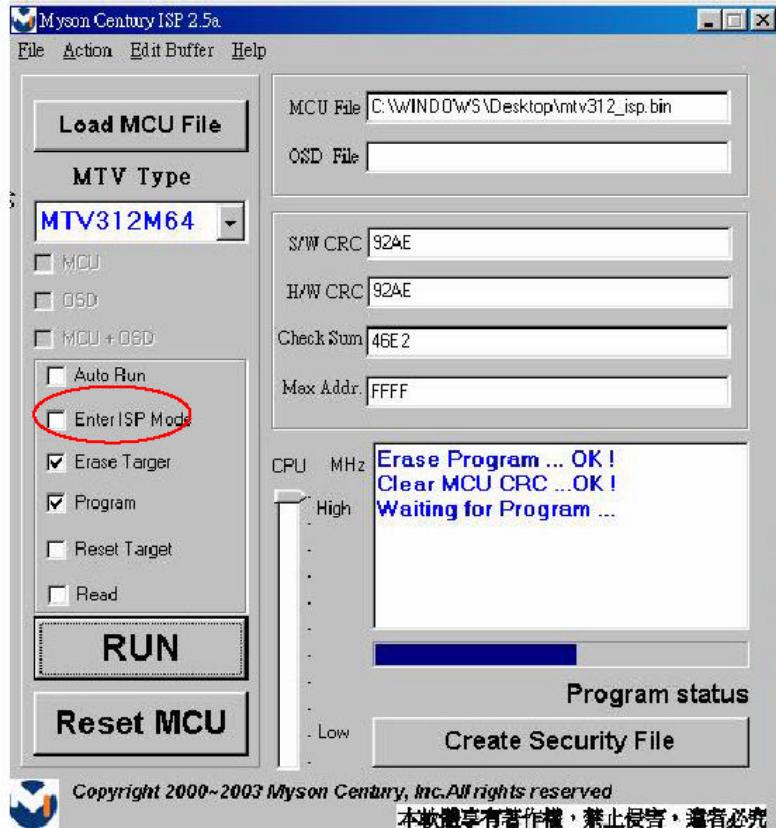
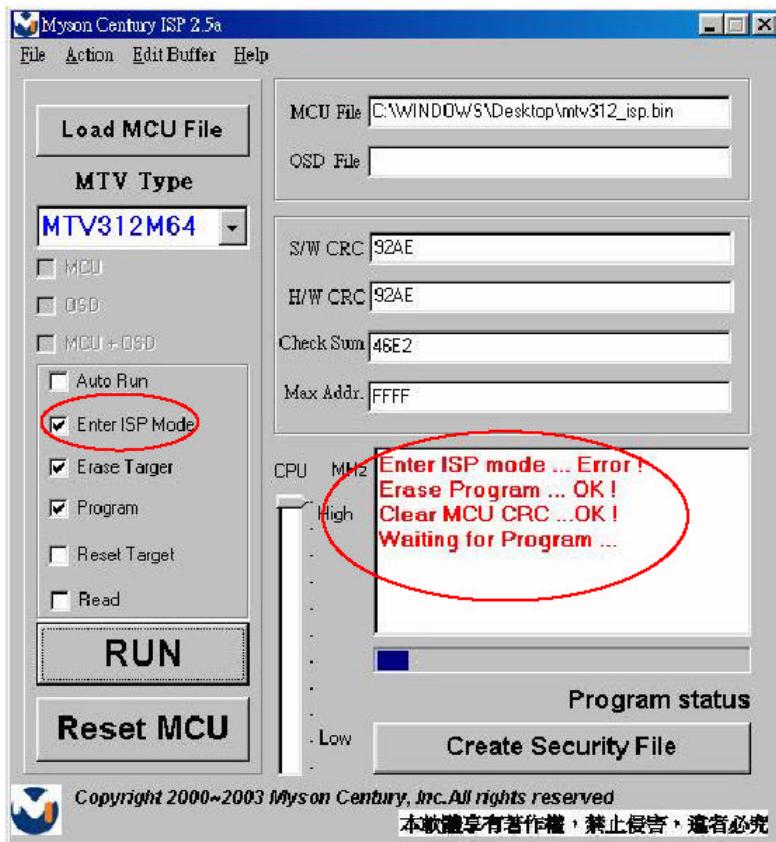


Fig 5.2

## 6 Re-entry the ISP Mode

When you could not select or click 'Reset MCU' button and enter ISP mode again, you refer the message as below:



Note:

- (1) Disable the 'Enter ISP Mode' option to avoid the error message display.
- (2) If you using the MTV312M64 or before MCU serials, the MCU will always in 'ISP Mode' even programming fail or erase MCU that instead of select or press 'Reset MCU'.

## 7. Boot code of ISP

### 7.1 Hardware ISP

- (1) Without boot code
- (2) Fixed security code: 94, 94, AC, CA, 53
- (3) Attention to the pin of HSCL (1) and HSDA (1) should keep in enable
- (4) MTV412M, MTV512M, CS8954 support hardware ISP

### 7.2 Software ISP

- (1) With boot code
- (2) User define the security code
- (3) Attention to the pin of HSCL (1) and HSDA (1) should keep in enable
- (4) Only software ISP could read the MCU content
- (5) MTV212M, MTV312M, MTV230M, MTV412M, MTV512M, CS8954 support software ISP

### 7.3 Boot code of software ISP

- (1) Initialize MCU
  - (a) Define the I/O pin to HSCL (1) and HSDA (1)
  - (b) Define the slave B address
  - (c) Enable 8051 INT1 (ISR 2)
- (2) Coding for INT1 while get into ISP mode
  - (a) Clear watchdog to prevent reset during ISP period
  - (b) Disable all interrupt to prevent CPU wake-up
  - (c) Write ISP slave address
  - (d) Write 93h to ISP enable address to enable ISP
  - (e) Enter 8051 idle mode

7.4 The followings show the relationship between the code and the security code.

```

// XRAM[SLVPAADR]=0x80|(0x4c>>1);
// Set P3.0, P3.1, P3.4, P3.5 to IIC related pins
XRAM[PADMODO]=0xc0;
XRAM[PADMOD1]=0xff;
XRAM[PADMOD2]=0xf7;
XRAM[PADMOD3]=0xff; // Use HSCL, HSDA, ISCL, ISDA
XRAM[HVSTUS]=0xe0; // enable composite
XRAM[HV_INTEN]=0x01;

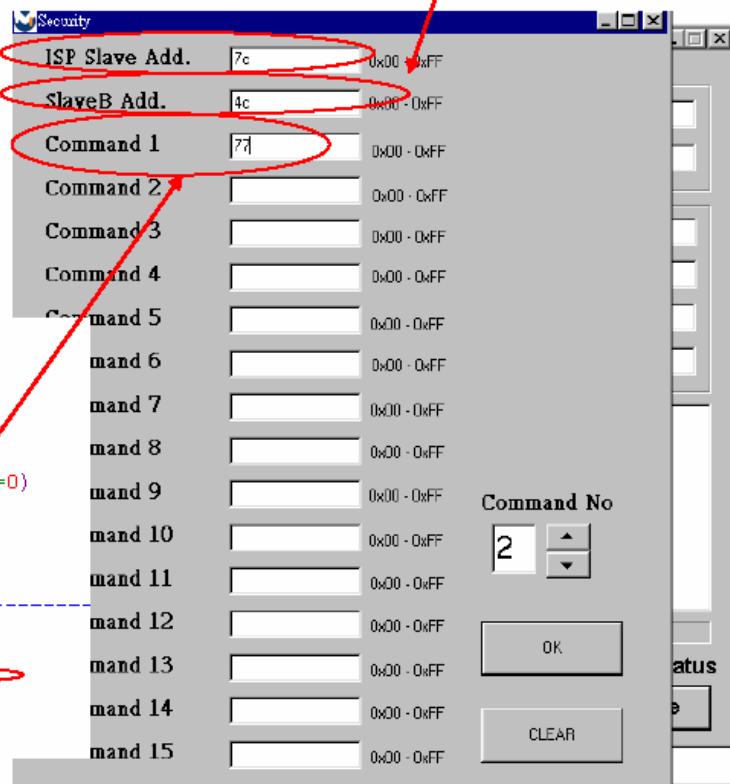
TH0=0xfc;
TL0=0x18;
IT1=0;
TMOD=0x51; // 
TR0=1;
//IE=0x86;
IE = 0x44; //enable INT1
P1=0x0ff; // Set a:
)

```

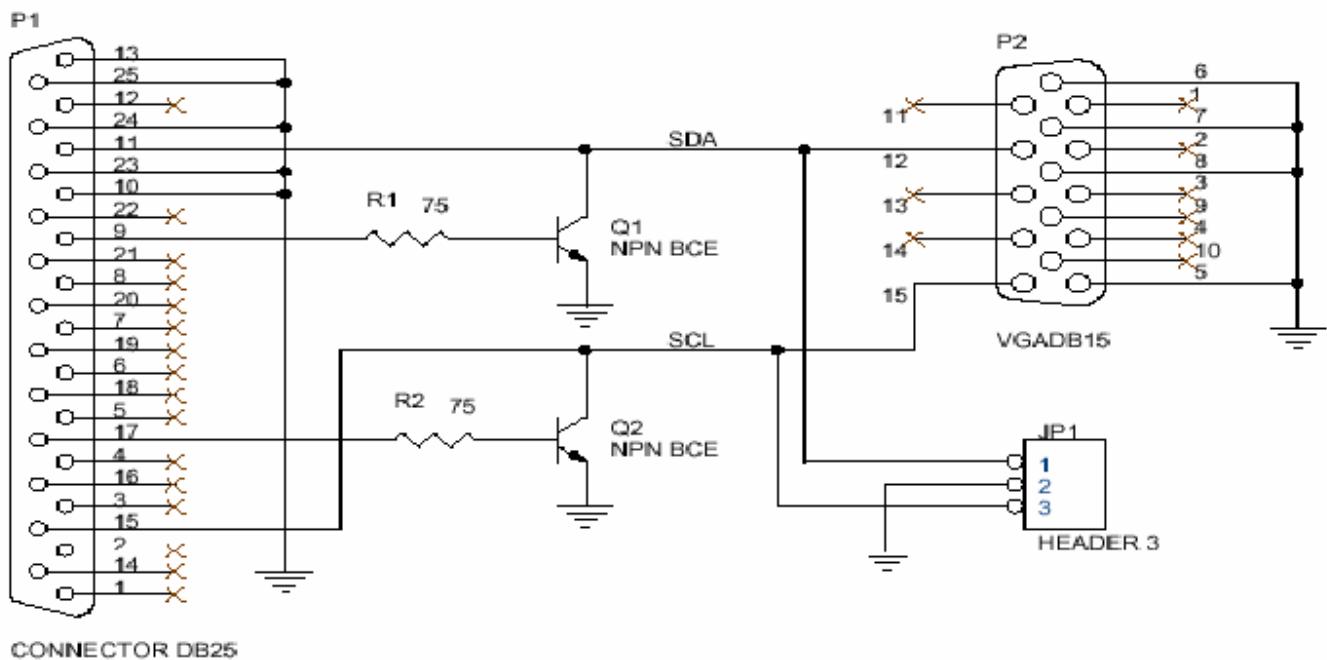
```

if( ( INTFLG&0x20 ) !=0 )
{
    XRAM[IIC_INTFLG]=INTFLG&0x08;
}
if( ( INTFLG&0x40 ) !=0 )
{
    if( ( XRAM[IIC_STUS1]&0x80 ) !=0 )
    {
        temp=XRAM[TXRCBEBUF];
        if( temp == 0x77 )
        {
            //test=1; //-----
            IE=0;
            XRAM[WDT]=0;
            XRAM[ISPSLVI]=0x7C;
            XRAM[ISPEN]=0x93;
            PCON=1;
        }
    }
}

```

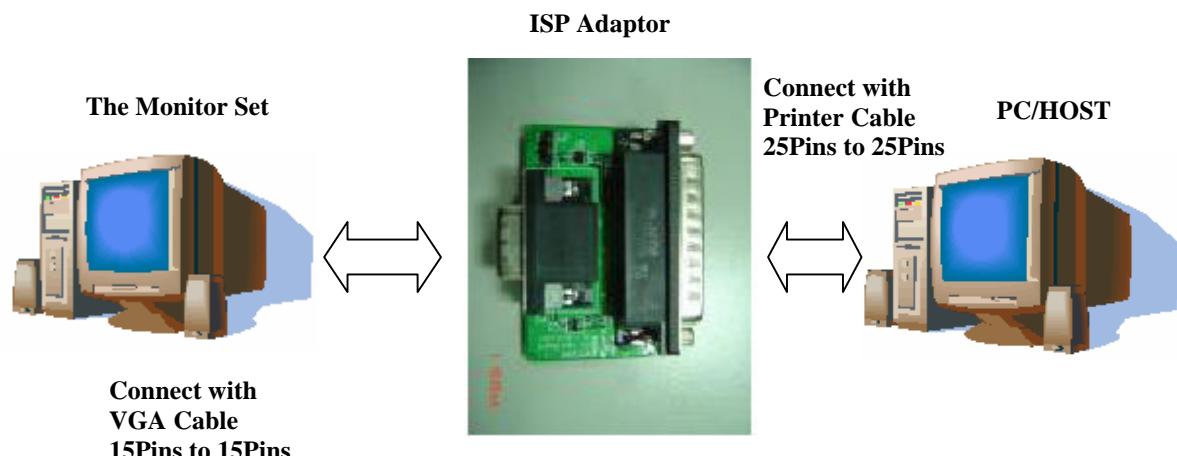


## 8. ISP Adaptor Schematic



CONNECTOR DB25

## 9. Adatptor Linking



# Packing For Shipping And Disassembly Procedure

## Packing For Shipping

### 1. Packing Procedure

1.1 Paste protection film to protect the monitor. (Figure 1)

1.2 Put the monitor in the PE bag and seal the bag with tape. (Figure 2)



Figure 1



Figure 2

1.3 Put the cushions on the monitor. (Figure 3)

1.4 Place the monitor into the carton and then put all the accessories into the carton. As last, close the carton and seal it with tape. (Figure 4)



Figure 3



Figure 4

## D. Monitor Assembly and Disassembly

### 1. Separate Stand Assy

#### 1.1 Remove Stand Cover

##### Step 1 :

Remove the Seat Assy



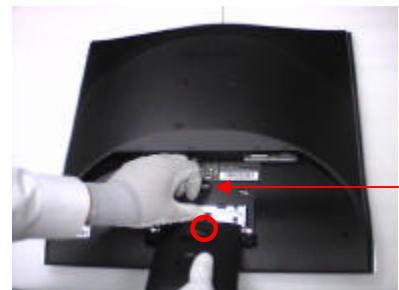
##### Step 2 :

Remove the Stand Cover.



##### Step 3 :

Press the mark A of Rear Cover



##### Step4 :

Remove the Stand Assy



##### Step 5 :

Completed.

## 2. Separate Rear Cover (Rear Case Assy)

Separate Bezel hooks to take Bezel and Rear Cover apart.

### Step 1 :

Loose and remove 4 screws.



### Step 2 :

Separate Bezel hooks to take Bezel and Rear Cover apart.



### Step 3 :

Remove Rear Cover.



### Step 4 :

Completed.

### 3. Remove Power Board and AD Board

#### 3.1 Remove Metal Cover

##### Step 1 :

Remove FFC from OSD Board.



##### Step 2 :

Lift up LCD module and remove bezel.



##### Step 3 :

Remove 2 pieces of Backlight wires.



##### Step 4 :

Remove 2 pieces of Backlight wires.



**Step 5 :**

Loose and remove 4 screws.



**Step 6 :**

Remove the Support Plate.



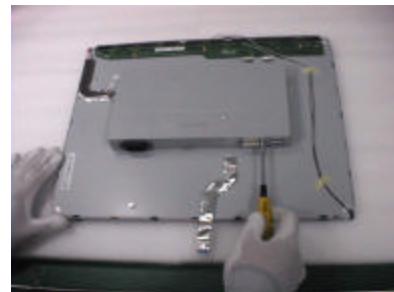
**Step 7 :**

Loose and remove 2 screws.



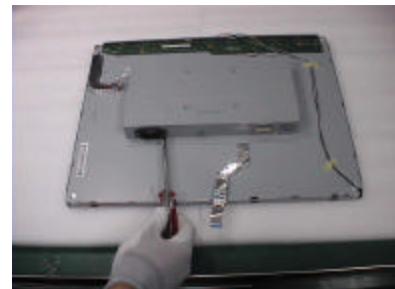
**Step 8 :**

Loose and remove 2 screws.



**Step 9 :**

Loose and remove 2 screws.



**Step 10 :**

Remove the PCBA Cover



### 3.2 Remove Power Board and AD Board

**Step 1 :**

Loose and remove 4 screws.



**Step 2 :**

Remove Lips Board



**Step 3 :**

Remove the FFC.



**Step 4 :**

Remove 2 pieces of FFCs.



**Step 5 :**

Loose and remove 4 screws.



**Step 6 :**

Remove AD PCBA.



**Step7 :**

Completed.

#### 4. Change New AD Board and Power Board

##### Step 1 :

Place new AD Board.

And fasten 4 fixed screws.



##### Step 2 :

Fasten 4 fixed screws.



##### Step 3 :

Insert 2 pieces of FFCs .



##### Step 4 :

Insert FFC.



##### Step 5 :

Insert new Lips Board.



**Step 6 :**

Fasten 4 fixed screws.



**Step 7 :Completed.**

**5. Remove OSD Board**

**Step 1 :**

Remove the FFC



**Step 2 :**

Separate both Audio Cables and OSD board.



**Step 3 :**

Loose and remove 2 screws.



**Step 4 :**

Remove the FFC and OSD board.



**Step 5:**

Completed.

**6.Change New OSD Board**

**Step 1 :**

Place new OSD Board and insert FFC.



**Step 2 :**

Fasten 2 screws.



**Step 3 :**

Join new OSD board.

**Step 4 :**

Insert Audio cables and FFC.

## 7. Add Cover to AD PCB Heatsink

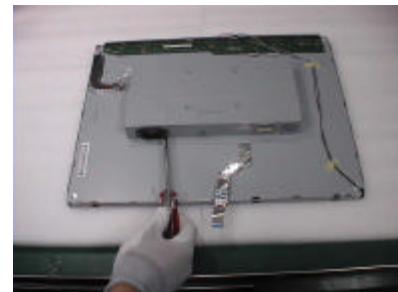
### Step 1 :

Join the PCB Cover.



### Step 2 :

Fasten 2 fixed screws.



### Step 3 :

Fasten 2 fixed screws.



### Step 4 :

Fasten 2 fixed screws.



### Step 5 :

Join the Support Plate.



**Step 6 :**

Fasten 4 fixed screws



**Step 7 :**

Insert 2 pieces of Backlight wires.



**Step 8 :**

Insert 2 pieces of Backlight wires.



**Step 9 :**

Join LCD module and remove bezel.



**Step 10 :**

Insert FFC.



**Step 11 :**

Completed.

## 8. Rear Assy & Stand Assembly

### Step 1 :

Place Rear Cover.



### Step 2 :

Fasten 4 fixed screws.



### Step 3 :

Place the Stand Assy.



### Step 4 :

Join the Stand Cover.



### Step 5 :

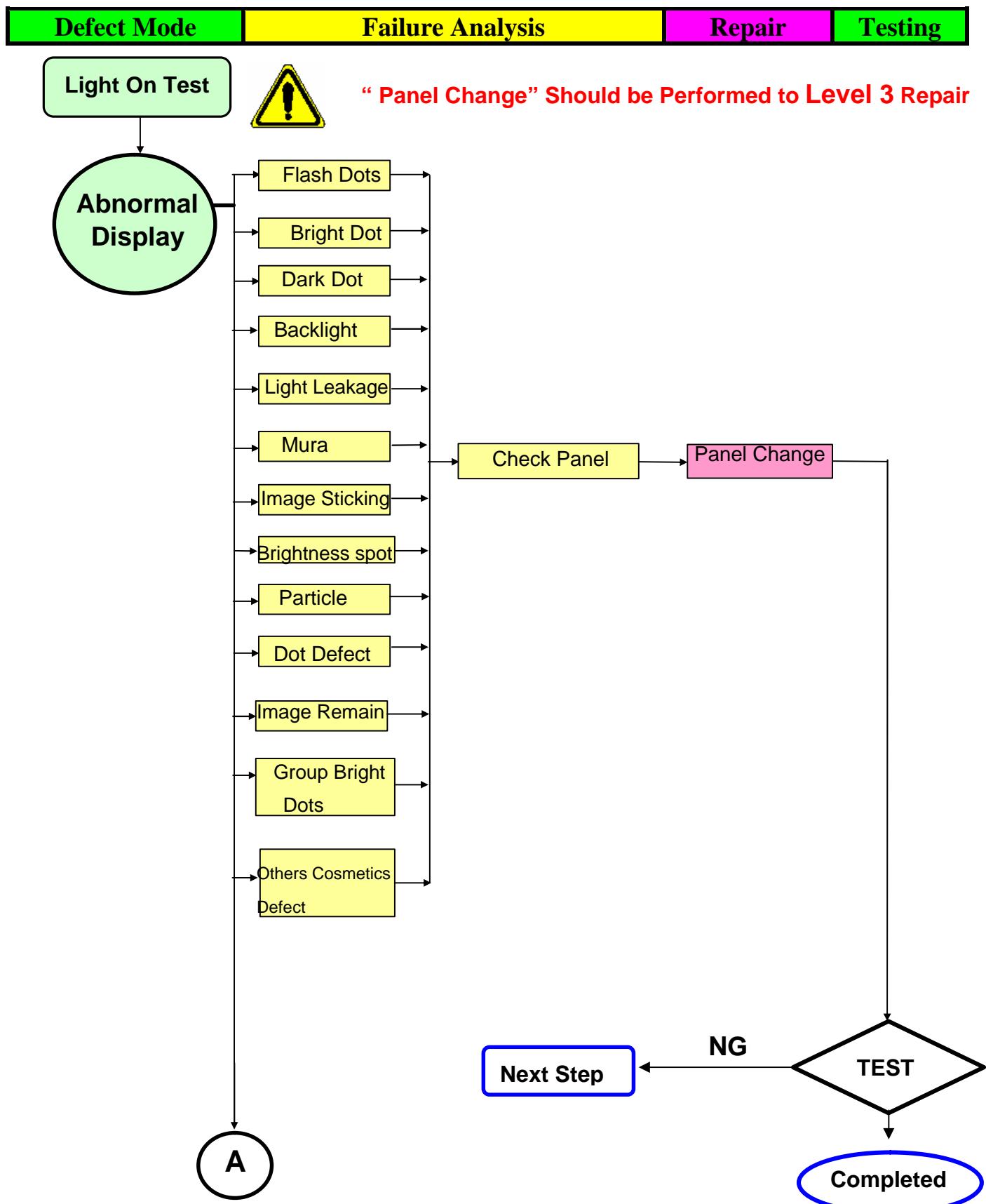
Join the Seat Assy



### Step 6 :

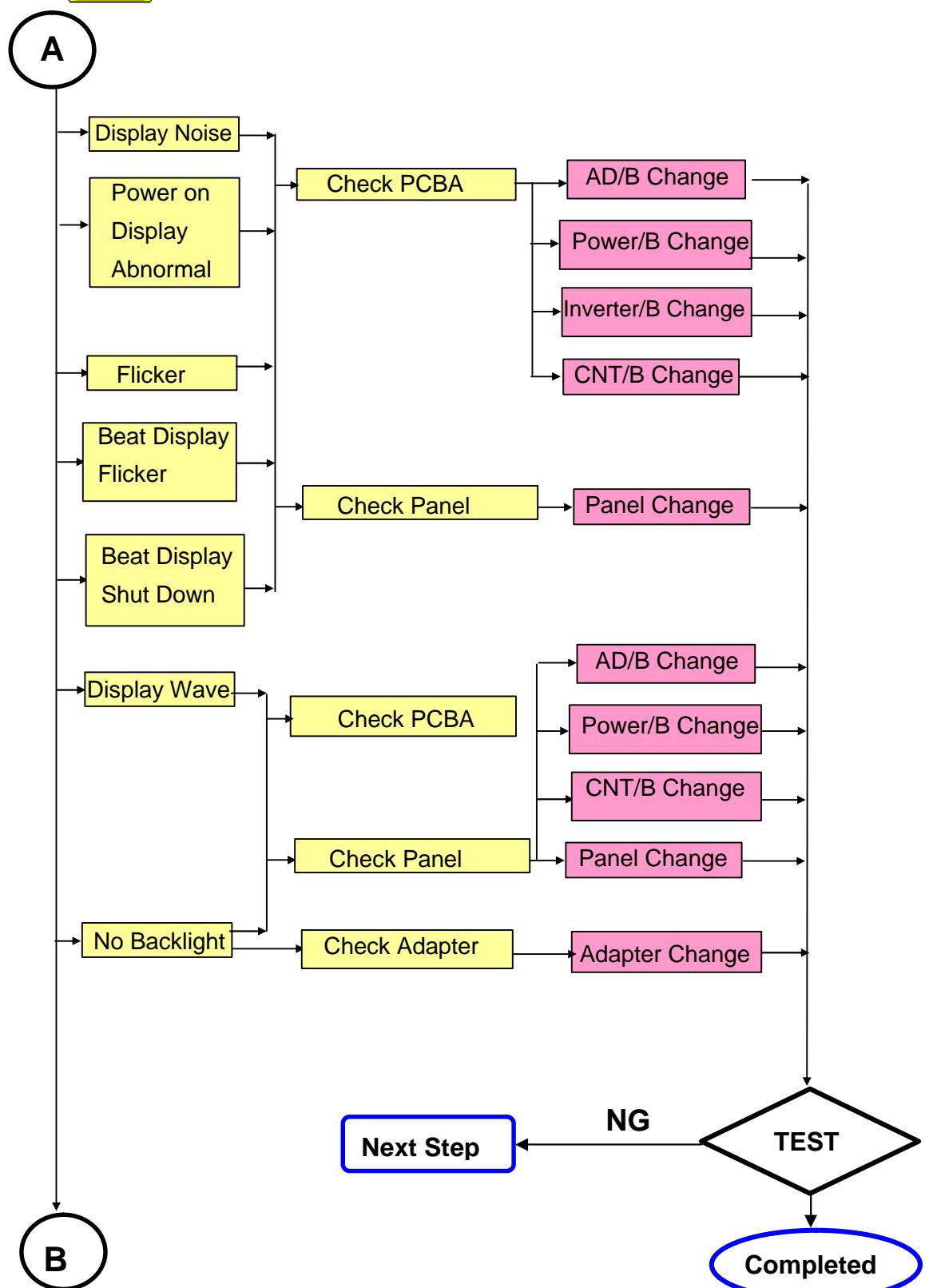
Completed.

## 6. Troubleshooting Flow Chart



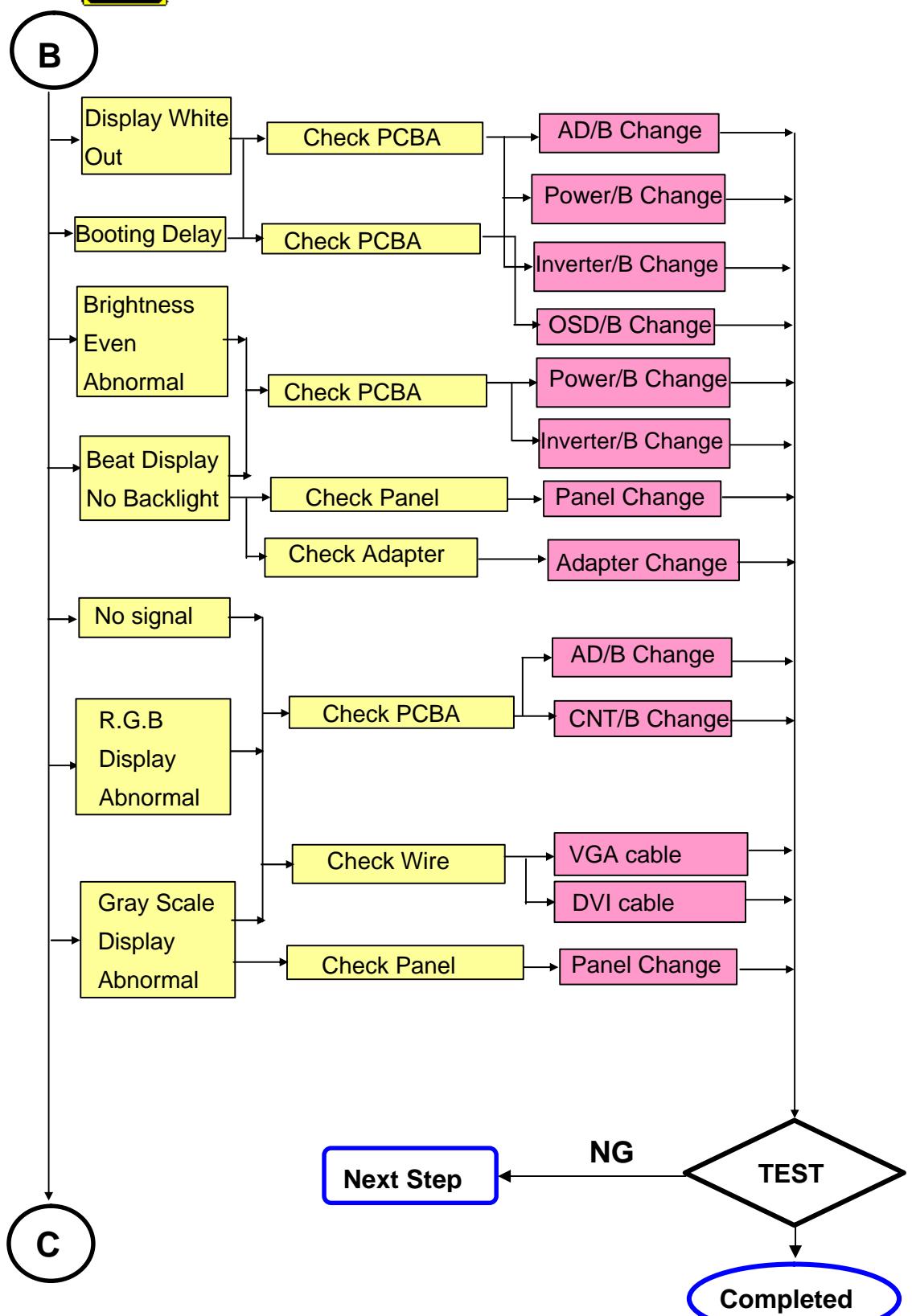


**“ Panel Change” Should be Performed to Level 3 Repair**



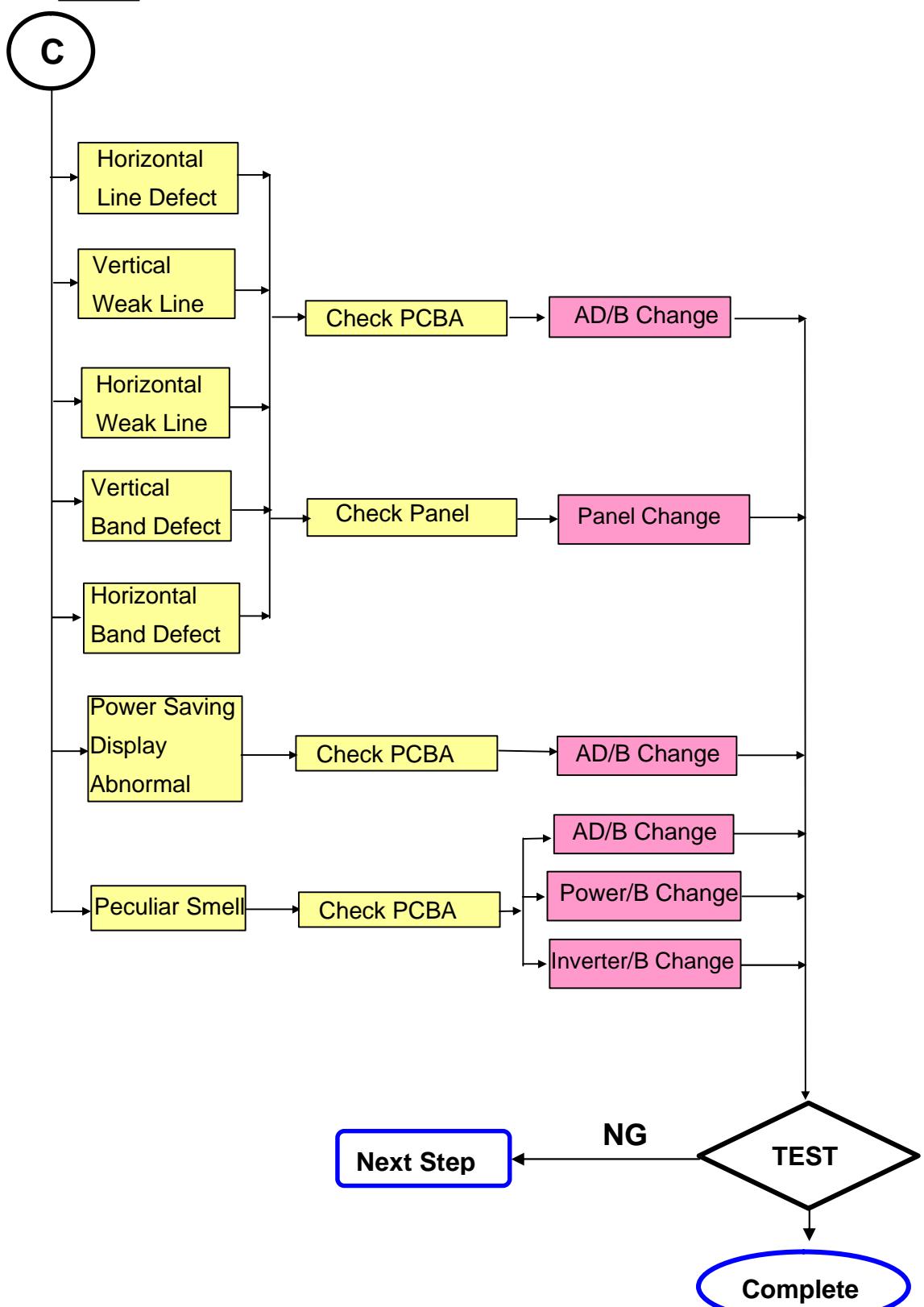


" Panel Change" Should be Performed to Level 3 Repair



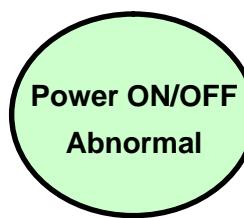


**“ Panel Change” Should be Performed to Level 3 Repair**

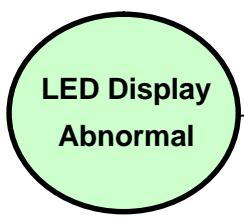
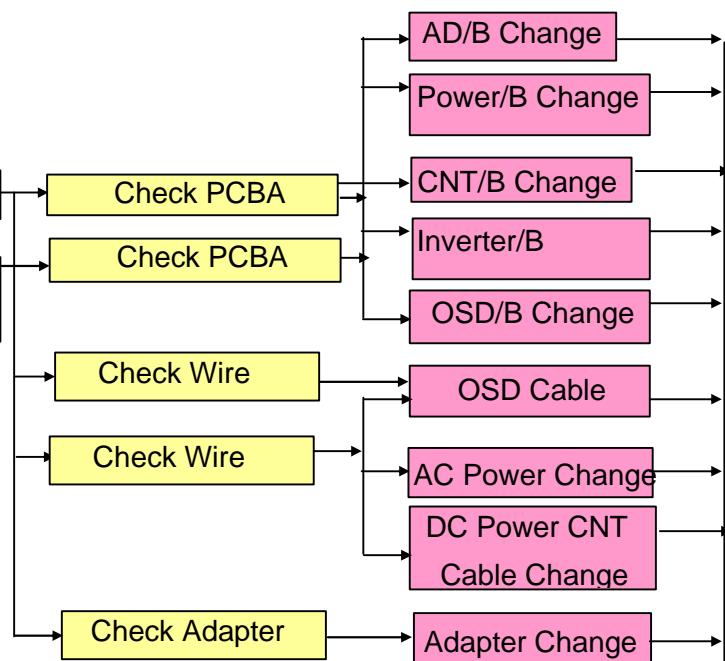




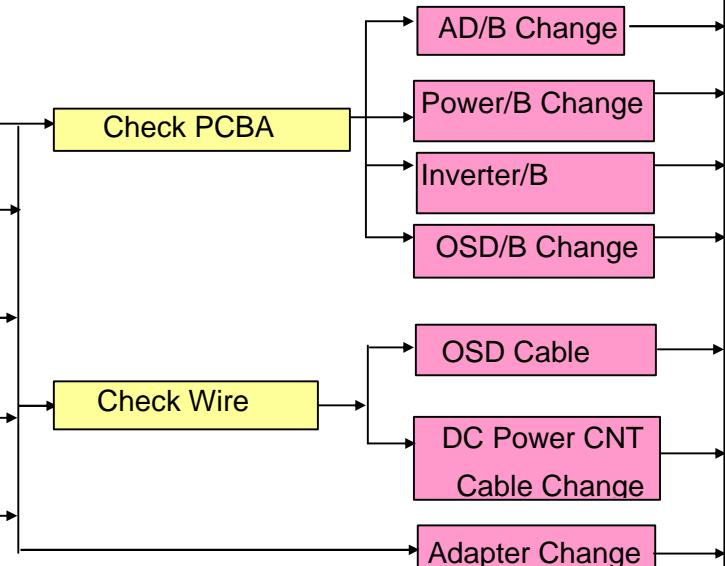
**“ Panel Change” Should be Performed to Level 3 Repair**



No Power  
Turn Off Abnormal



LED Off  
LED Dark  
LED Abnormal  
LED Loss  
LED Flicker

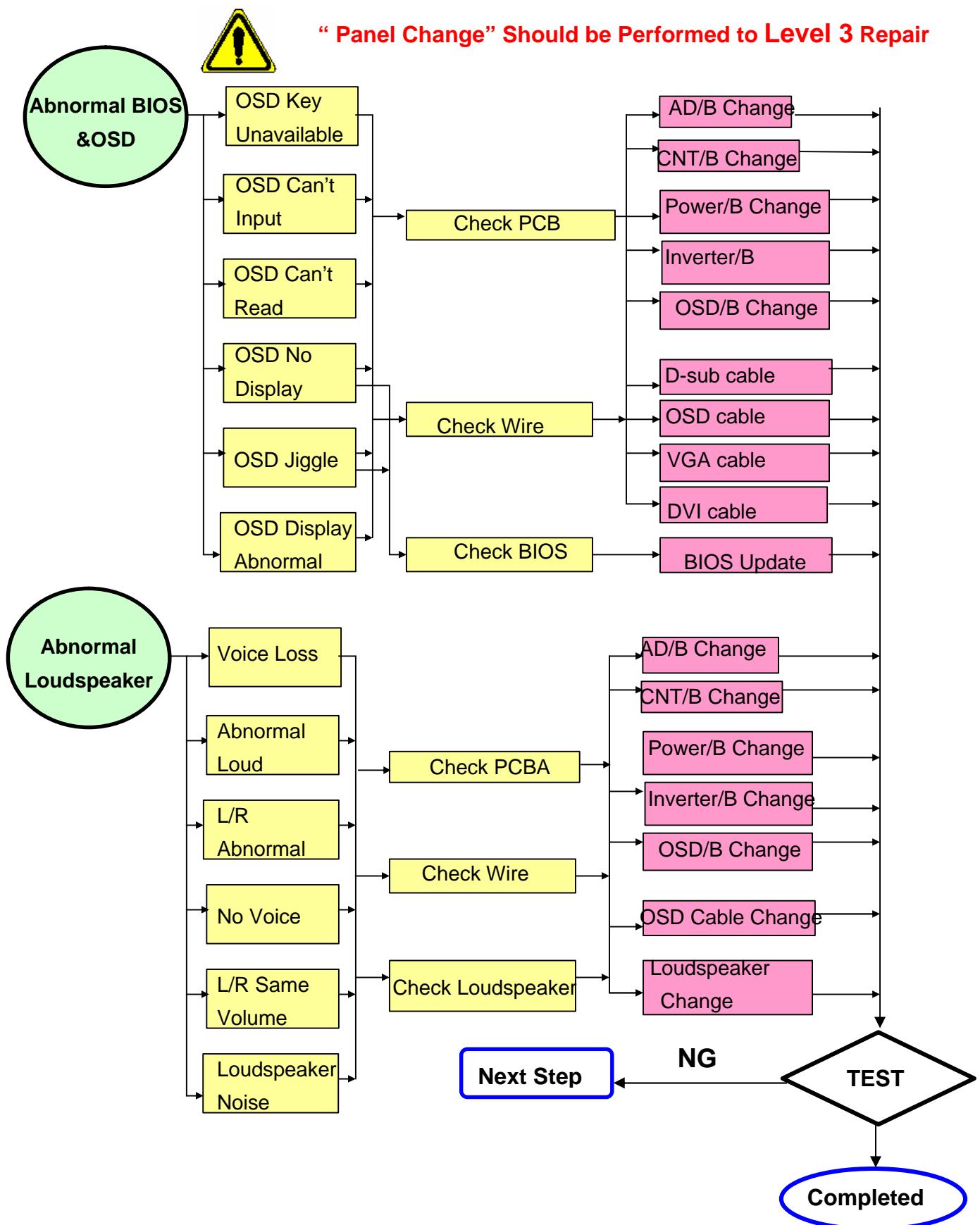


Next Step

NG

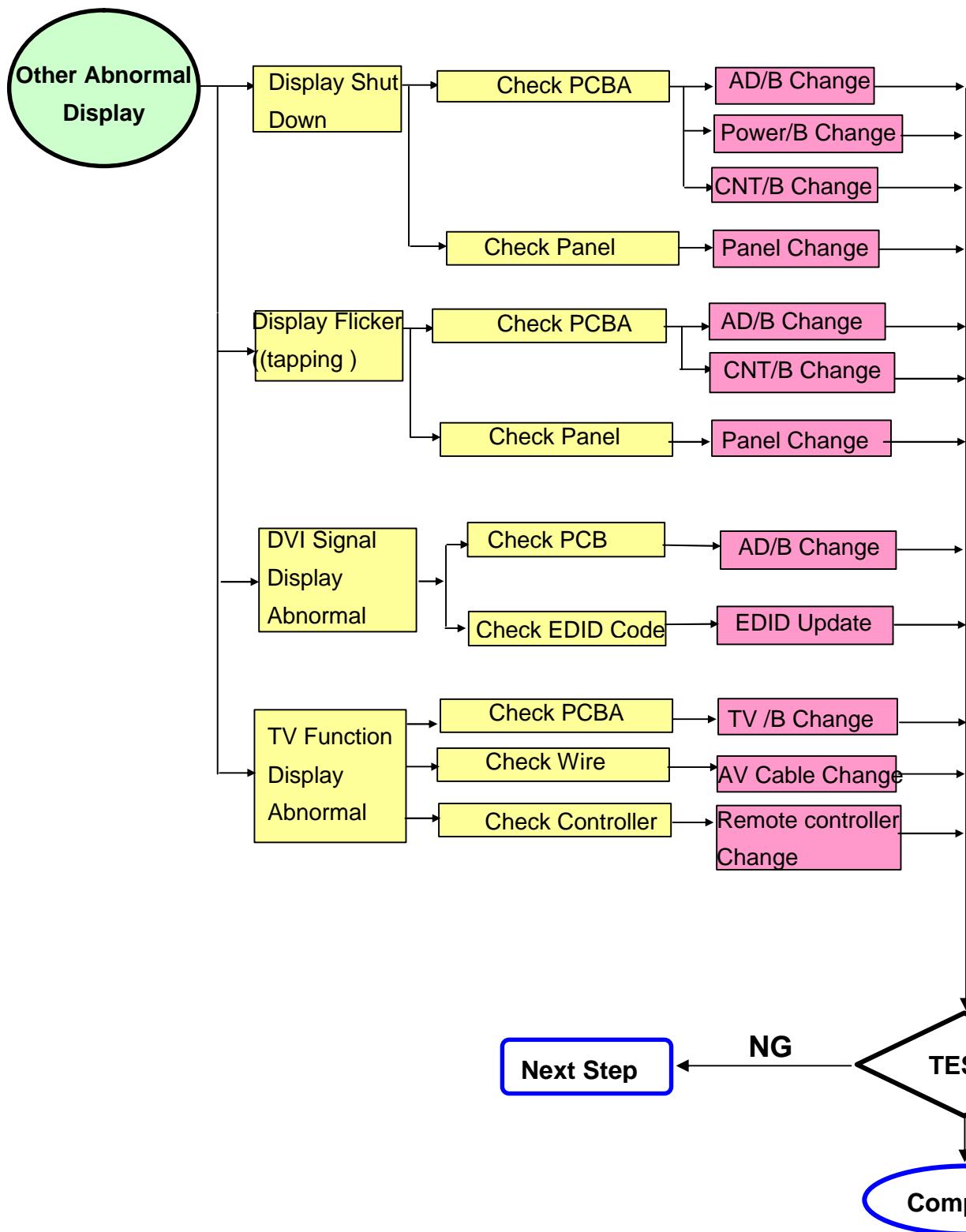
TEST

Completed





**“ Panel Change” Should be Performed to Level 3 Repair**



## Trouble Shooting Analysis

Check the information in this section to see if the problems can be solved before requesting repair.

**Note : The consumers are only allowed to solve the problems described as below. Any unauthorized product modification, or failure to follow instructions supplied with the product will end the warranty immediately.**

- **No image**
  - ◆ Make sure power button is ON.
  - ◆ Check whether the LCD monitor and computer power cords are plugged and whether there is a supply of power.
- **No Signal Input**
  - ◆ Check the signal connection between the computer and LCD monitor.
- **“Out of Range”**
  - ◆ Check the computer image output resolution and frequency and compare the value with the preset values (Please refer to [Appendix-Display Mode]).
- **Fuzzy Image**
  - ◆ Adjust Phase.
- **Image too bright**
  - ◆ Adjust brightness and contrast by OSD.
- **Image too dark**
  - ◆ Adjust brightness and contrast by OSD.
- **Irregular image**
  - ◆ Check the signal connection between the computer and LCD monitor.
  - ◆ Perform Auto Adjust.
- **Distorted image**
  - ◆ Reset the LCD monitor
  - ◆ Take off extra accessories (such as signal extension cord).
- **Image is not centered**
  - ◆ Use OSD Image Menu to adjust H\_Position and V\_Position.
  - ◆ Check image size setting.
  - ◆ Perform Auto Adjust.
- **Size is not appropriate**
  - ◆ Use OSD Image Menu to adjust H\_Position and V\_Position.
  - ◆ Check image size setting.
  - ◆ Perform Auto Adjust.
- **Uneven color**
  - ◆ Use OSD Color Menu to adjust color setting.
- **Color too dark**
  - ◆ Use OSD Color Menu to adjust color setting.
- **Dark area distorted**
  - ◆ Use OSD Color Menu to adjust color setting.
- **White color is not white**
  - ◆ Use OSD Color Menu to adjust color setting.

## 7. Recommended Spare Parts List

### RECOMMENDED SPARE PARTS LIST (VG2021m-1)

ViewSonic Model Number: VS11234

Rev: 1a

Serial No. Prefix: Q6U

Item	Description	ECR/ECN	ViewSonic P/N	Ref. P/N	Location	Universal number#	Q'ty
1	Accessories:	Power Code,UL,SVT#18/3C,75°C,LP-30B+LS-13, L=1830+/-50mm,Black		A-00000458	32E1818015		1
2		Adapter - Lips With Audio,DAC-12M033 AF,00 A,12 V/0.7 A,5 V/3 A,4L,5 mA,2650 V		A-00005706	27-D004260		1
3	Board Assembly:	Power Switch Board ,A201P1-P01-H,A201P1-P01-H-K1,1101-01,Rev.01		B-00005703	35-D007988		1
4		OSD BOARD ,A201P1-P01-H,A201P1-P01-H-K2,1101-01,Rev.01		B-00005704	35-D007990		1
5		Audio Control Board ,A190A2-A02-H,A190A2-A02-H-S1,1206-03,Rev.04		B-00005705	35-D005062		1
6	Cabinets:	Rear Assy,A201P1-H14,Black		C-00005671	40-D007468		1
7		Cover Hinge Assy,A201P1-H14,Black		C-00005672	40-D007467		1
8		Cover AD Assy		C-00005673	41-D002955		1
9		Seat Assy,A201P1-H14,Black		C-00005674	40-D007461		1
10		Bezel Assy,A201P1-H14,Silver/Black		C-00005683	40-D007460		1
11		Stand Assy,A201P1-H14,Black		C-00005684	40-D007465		1
12		Metal Frame Front,A201P1,SECC t=0.6mm		C-00005685	41-D004344		1
13	Cables:	Accessory Cable,DVI,Black		CB-00002083	32F0000004		1
14		Accessory Cable,D-Sub, BLACK		CB-00004287	32F3018003		1
15		FFC,862P051787A/CFC2108,6 Pins		CB-00005675	32-D007466		1
16		FFC,862P051786A/CFC2109,15 Pins		CB-00005676	32-D007464		1
17		FFC,0.5x36x117xD(3.5/3.5/5),36 Pins		CB-00005677	32-D008152	2	
18		Accessory Cable,Audio,Black		CB-00005678	32F2818011		1
19	Documentation:	Safety Label for ,A201P1-H04		DC-00005666	77-D007646		1
20		SN Label for ,A201P1-H04		DC-00005667	77-D007648		1
21		Carton Label for ,A201P1-H04,76.2 mmx76.2 mm		DC-00005668	77-D007645		1
22		Carton Label for ,A201P1-H04,20 mmx20 mm		DC-00005669	77-D008329		1
23		MENU for A201P1-H04		DC-00005670	76-D007999		1
24	Hardware:	Screw,M3*P0.5*6		HW-00000555	42A9930014		4
25		SCREW,M3,P=1.27 mm,L=8 mm		HW-00000557	42A9930017		2
26		SCREW,M4,P=0.7 mm,L=8 mm		HW-00004042	42-D000649		1
27		SCREW,M3,P=0.5 mm,L=4 mm		HW-00005679	42A9930008		15
28		SCREW,M4,P=0 mm,L=11.8 mm		M-00000559	42A9940007		4
29	Packing Material:	Bag,700 mmx500 mmx0.13 mm		P-00002374	7841919941		1
30		Carton,A201P1-H04,490 mmx160 mmx510 mm		P-00005680	78-D007998		1
31		Cushion,A201P1-H14,EPS,White,495 mmx150 mmx14 mm,EPS-FORM(Right),Green II		P-00005681	78-D007568		1
32		Cushion,A201P1-H14,EPS,White,495 mmx150 mmx14 mm,EPS-FORM(Left),Green II		P-00005682	78-D007563		1

Remark 1: Above listed items are examples, supplier can expand the rows to add more necessary items.

Remark 2: All revised RSPs with newly added items or any change made should be highlighted and correlated with the ECN/ECR approved by ViewSonic Corporation. This is to eliminate repeated cross checks of each item between this version and prior versions.

## BOM LIST (VG2021m-1)

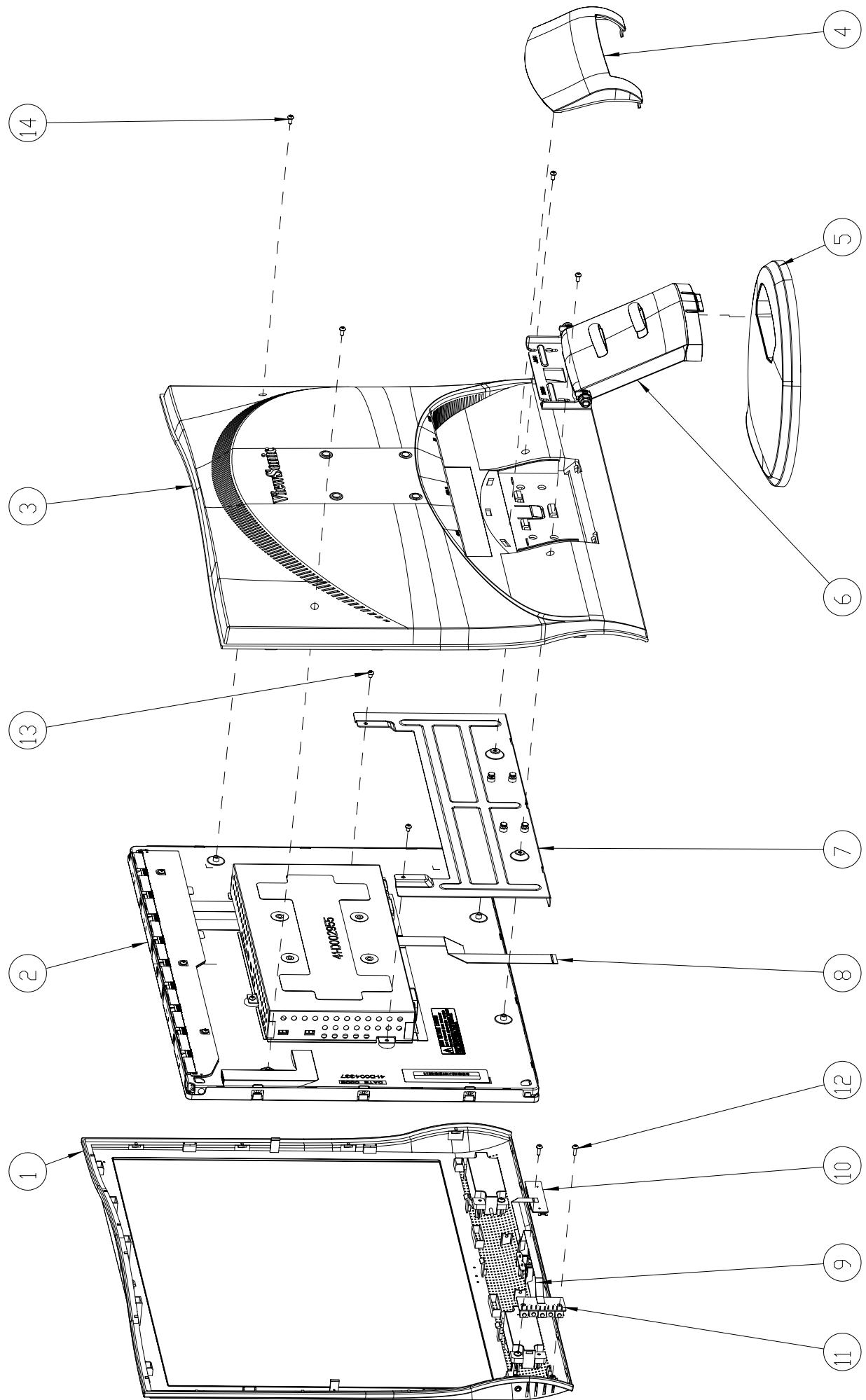
ViewSonic Model Number: VS11234

Rev: 1a

Serial No. Prefix: Q6U

Item	ViewSonic P/N	Ref. P/N	Description	Location	Universal number#	Q'ty
1	N/A	MK1P101K01	20.1" Common Semi Product,A201P1,1400 X 1050,			1
2	N/A	36-D001339	Driver IC,Scan,A170E1,HX8633CPD400,256Channel	Common		4
3	N/A	73-C000047	ACF,COG,AC-8405Z-23,1.5mmX100M,100000 mmx1.5 mm	Common	7344191016	0.00332
4	N/A	lxk109XXXX	20.1" TN Panel Base	Common		1
5	N/A	7344191017	ACF,AC-4251FY-16,100M/RL	Common		0.0044
6	N/A	36-D004403	Driver IC,COF,Data,A201P1-P01-H	Common		10
7	N/A	73-D002676	ACF,PCB,AC-9825R-35,100000 mmx1.5 mm	Common	7344191004, 7344191011	0.0044
8	N/A	35-D004526	PCBA for ,A201P1-H,A201P1-P01-H-X,1101-01,Rev.02	Common	35-D007109	1
9	N/A	7349951002	Silicone,TORAY-9187L,330g	Common		0.5
10	N/A	PK1PFH1Q02	Olympic,20.1"TN,Function BOM,D-sub+DVI+Audio			1
11	HW-00000554	42A9930008	SCREW,M3,P=0.5 mm,L=4 mm	Common		15
12	M-00000559	42A9940007	SCREW,M4,P=0 mm,L=11.8 mm	Common		4
13	HW-00004042	42-D000649	SCREW,M4,P=0.7 mm,L=8 mm	Common		1
14	N/A	41-D002955	Cover AD Assy,A190A2	Common		1
15	N/A	27-D004260	Lips With Audio,DAC-12M033 AF,00 A,12 V/0.7 A,5 V/3 A,4L,5 mA,2650 V	Common	27-D004263	1
16	N/A	41-D004344	Metal Frame Front,A201P1	Common		1
17	N/A	35-D005062	PCBA for ,A190A2-A02-H,A190A2-A02-H-S1,1206-03,Rev.04	Common		1
18	N/A	44-D008021	Backlight Unit	Common		1
19	N/A	32-D008152	FFC,0.5x36x117xD(3.5/3.5/5.5),36 Pins	Common		2
20	N/A	PK1PAA1000(A14) PK1PAC0000(C14) PK1PAE0000(E14) PK1PAK0000(K14) PK1PAW0000(W14)	Olympic,20.1",Accessory BOM,D-sub+DVI+Audio,USA 3 pin,Black, Olympic,20.1",Accessory BOM,D-sub+DVI+Audio,China 3 pin,Black, Olympic,20.1",Accessory BOM,D-sub+DVI+Audio,European / Korea 2 pin,Silver Black,w/ DVI Cable Olympic,20.1",Accessory BOM,D-sub+DVI+Audio,None,Black,Two Power code of UK & EU for VSC Olympic,20.1" TN,Accessory BOM,D-sub+DVI+Audio,Taiwan 3 pin,Black,Power Built-in;RoHS			1
21	A-00000458	32E1818015	Power Code,UL,SVT#18/3C,75°C,LP-30B+LS-13,L=1830+/-50mm,Black,Linetek,18AWG, No Bag	A14	32E1818019	1
22	A-00002058	32E1818013	Power Cord,CCC,300/500V,0.75mm2,3C,PC-323+COC-01,L=1830+/-50mm,Black,Linetek,18AWG, No Bag	C14	32E1818021	1
23	A-00002059	32E1818018	Power Cord,SP-023+IS-14,Black,CEE,1800 mm,Green I	E14	32E1818016	1
24	A-00000571	32E1818016	Power Code,CEE,H05W-F,0.75mm2,3C,LP-33+LS-60,L=1830+/-50mm,Black,Linetek,18AWG, No Bag	K14	32E1818018	1
25	A-00002057	32E1818060	Power Cord,BSI,H05VV-F,0.75mm2,3C,LP-60L+LS-60,L=1830+/-50mm,Black,18AWG,PSB Mark,Linetek, No Bag	K14	32E1818020	1
26	A-00004047	32-D001922	Power Cord,VCTF 3G 0.75mm <sup>2</sup> CNS CT-08,Black,BSMI,1800 mm	W14	32-D002330	1
27	N/A	32F2818004	Audio Cable,A150X2,18AWG,180cm,Black,JCE,Green I	C14,E14,W14	32F2818011	1
28	CB-00004287	32F3018003	Accessory Cable,D-Sub, BLACK	Common	32-D002132	1
29	CB-00002083	32F0000004	Accessory Cable,DVI,Black	Common		1
30	N/A	32F2818011	Accessory Cable,Audio,Black	A14,K14	32F2818004	1
31	N/A	PK1PI14100(A14) PK1PI14102(C14) PK1PI14101(E14) PK1PI14103(K14) PK1PI14104(W14)	Olympic,20.1",ID BOM,D-sub+DVI+Audio,USA,Black,For VSC, Olympic,20.1",ID BOM,D-sub+DVI+Audio,China,Black,For VSC, Olympic,20.1",ID BOM,D-sub+DVI+Audio,European,Black,For VSC, Olympic,20.1",ID BOM,D-sub+DVI+Audio,UK,Black,For VSC, Olympic,20.1",ID BOM,D-sub+DVI+Audio,TWN,Black,For VSC,			1
32	HW-00000555	42A9930014	Screw,M3*P0.5*6	Common		4
33	N/A	41-D007449	Support Plate,A201P1-H14	Common		1
34	N/A	40-D007460	Bezel Assy,A201P1-H14	Common		1
35	N/A	40-D007468	Rear Assy,A201P1-H14	Common		1
36	N/A	40-D007467	Cover Hinge Assy,A201P1-H14,Black	Common		1
37	N/A	32-D007466	FFC,862P051786A/CFC2108,6 Pins	Common		1
38	N/A	32-D007464	FFC,862P051786A/CFC2109,15 Pins	Common		1
39	N/A	35-D007990	PCBA for ,A201P1-P01-H,A201P1-P01-H-K2,1101-01,Rev.01	Common		1
40	N/A	35-D007988	PCBA for ,A201P1-P01-H,A201P1-P01-H-K1,1101-01,Rev.01	Common		1
41	HW-00000557	42A9930017	SCREW,M3,P=1.27 mm,L=8 mm	Common		2
42	N/A	40-D007465	Stand Assy,A201P1-H14	Common		1
43	N/A	77-D001323	Customer Label for ,A170E1-H0G,15 mmx15 mm	C14		1
44	N/A	77-D007646	Safety Label for ,A201P1-H04,160 mmx30 mm	Common		1
45	N/A	77-D007647	SN Label for ,A201P1-H04,50 mmx25 mm	C14		1
46	N/A	77-D007648	SN Label for ,A201P1-H04,50 mmx25 mm	Common		1
47	N/A	73-D007951	Panel Protector Film,A201P1-H14	Common		1
48	HW-00002076	7841595111	Corner Protector,paper,50 mmx50 mmx1850 mm	Common		0.08
49	N/A	7841996911	Separator,A190E2-H04,1200 mmx1050 mmx11 mm	Common		0.02
50	DC-00000586	7741999141	Label,Pallet Barcode Label	Common		0.02
51	N/A	7345511002	Tape,Security Tape,OPP,L900xW50x0.045mm	Common		0.3
52	P-00002374	7841919941	Bag,700 mmx500 mmx0.13 mm	Common		1
53	N/A	77-D000114	Customer Label,A170E1-H0G	C14		1
54	N/A	77-D000118	Customer Label,A170E1-H0G	C14		1
55	N/A	78-D000275	Warranty Card,A170E1-H0G	C14		1
56	N/A	78-D003113	Pallet,A190E3-H02	Common		0.02
57	N/A	40-D007461	Seat Assy,A201P1-H14,Black	Common		1
58	N/A	78-D007563	Cushion,A201P1-H14,EPS,White	Common		1
59	N/A	78-D007568	Cushion,A201P1-H14,EPS,White,495 mmx150 mmx114 mm	Common		1
60	N/A	79-D007569	Shipping Package Information for ,A201P1-H14	Common		1
61	N/A	77-D007645	Carton Label for ,A201P1-H04,76.2 mmx76.2 mm	Common		1
62	N/A	76-D007999	MENU for A201P1-H04	A14		1
63	N/A	76-D008000	MENU for A201P1-H04	C14,E14,K14,W14	1	
64	N/A	78-D007998	Carton,A201P1-H04,490 mmx160 mmx510 mm	Common		1
65	N/A	77-D008329	Carton Label for ,A201P1-H04,20 mmx20 mm	Common		1

## 8. Exploded Diagram and Exploded Parts List



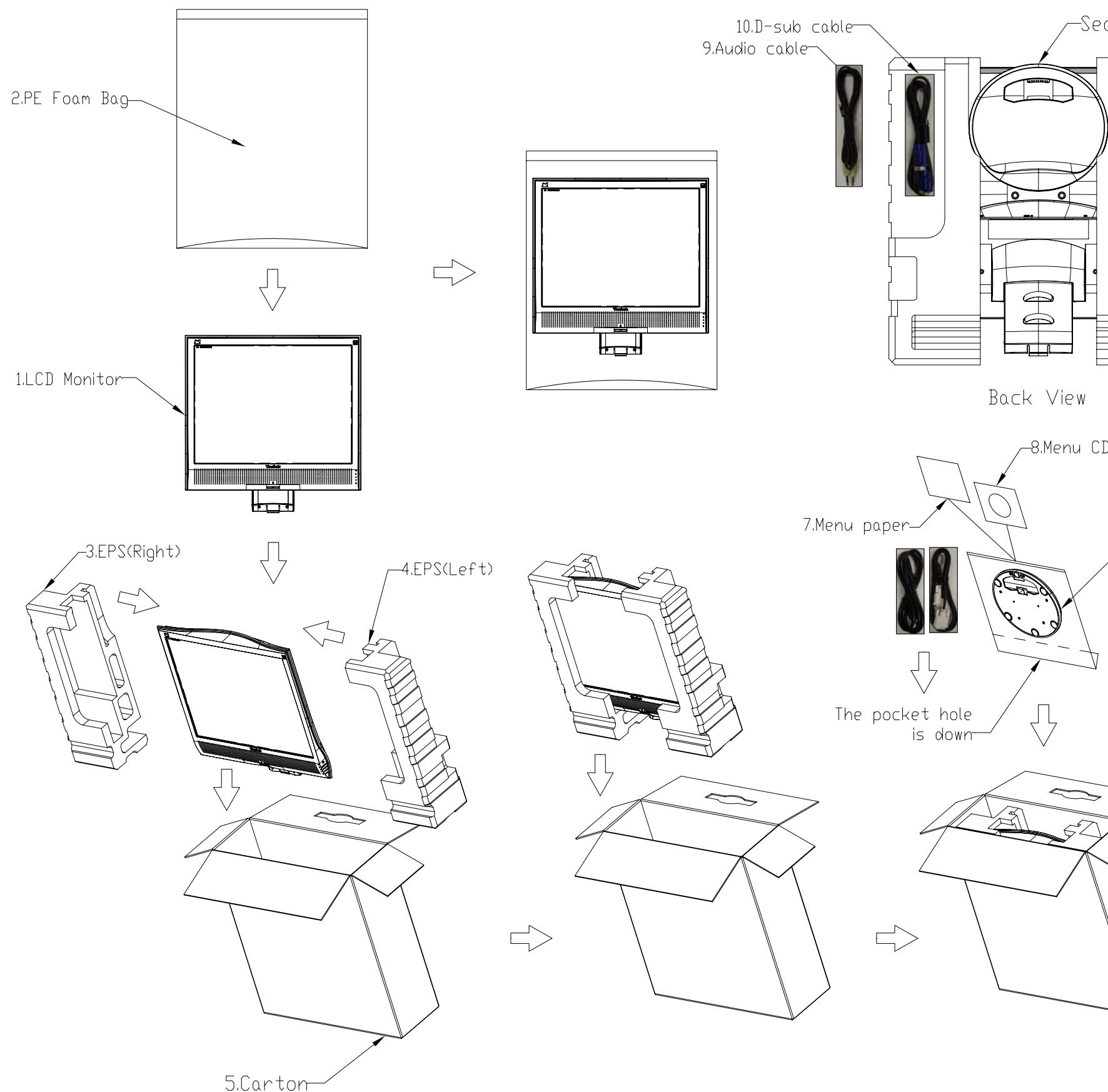
# EXPLODED PARTS LIST (VG2021m-1)

ViewSonic Model Number: VS11234

Rev: 1a

Serial No. Prefix: Q6U

Item	ViewSonic P/N	Ref. P/N	Description	Q'ty
1	C-00005683	40-D007460	BEZEL ASSY	1
2	N/A	PK1PFH0Q02	ISM	1
3	C-00005671	40-D007468	REAR ASSY	1
4	C-00005672	40-D007467	COVER HINGE ASSY	1
5	C-00005674	40-D007461	SEAT ASSY	1
6	C-00005684	40-D007465	STAND ASSY	1
7	N/A	41-D007449	COVER HINGE ASSY	1
8	CB-00005676	32-D007464	FFC (AD POWER PCBA)	1
9	CB-00005675	32-D007466	FFC (POWER PCBA OSD PCBA)	1
10	B-00005703	35-D007988	POWER PCBA	1
11	B-00005704	35-D007990	OSD PCBA	1
12	HW-00000557	42A9930017	SCREW D3*8	2
13	HW-00005679	42A9930008	SCREW M3*4	2
14	HW-00000555	42A9930014	SCREW M3*6	4



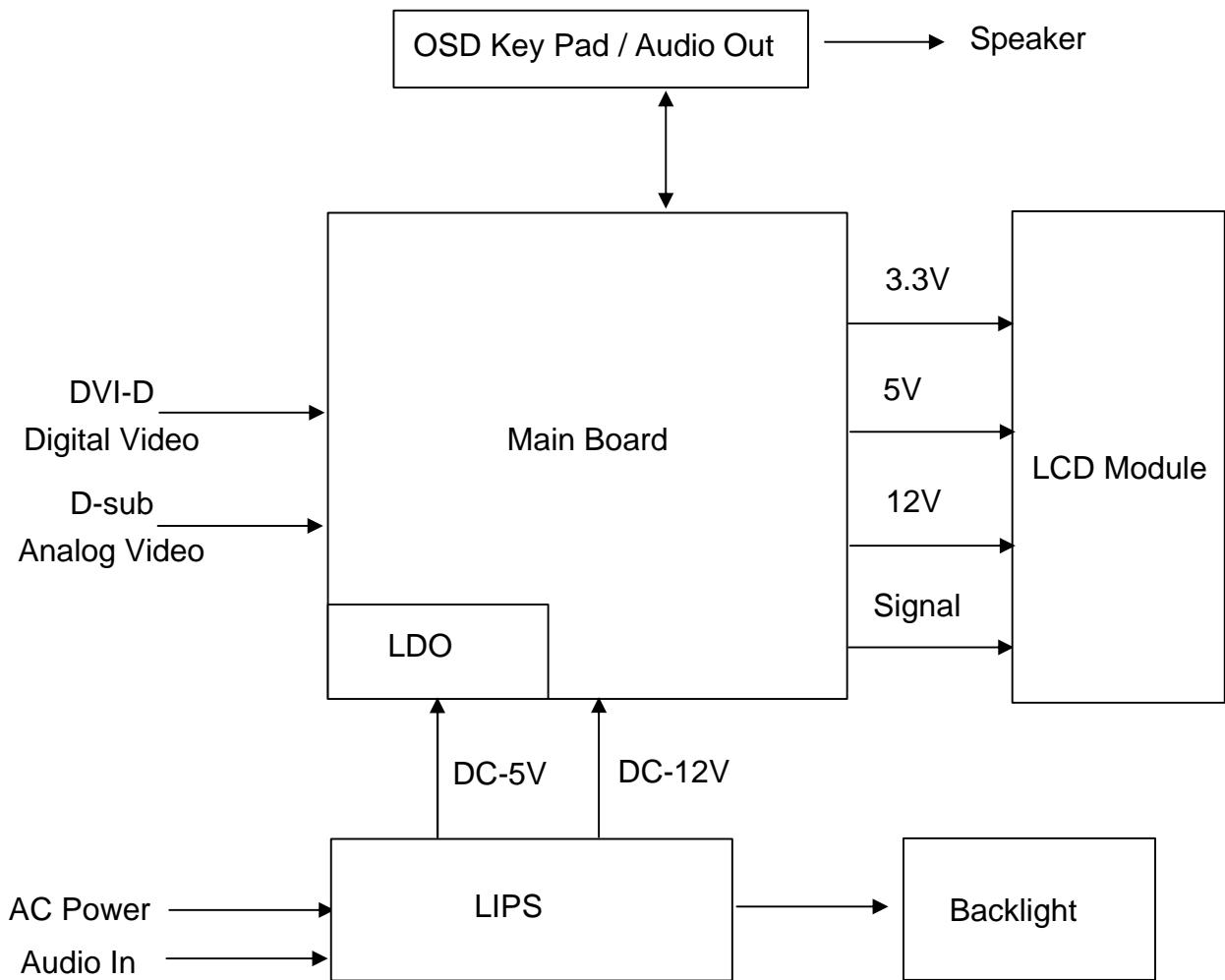
### PACKING PART LIST ( VG2021m-1 )

ViewSonic Model Number: VS11234

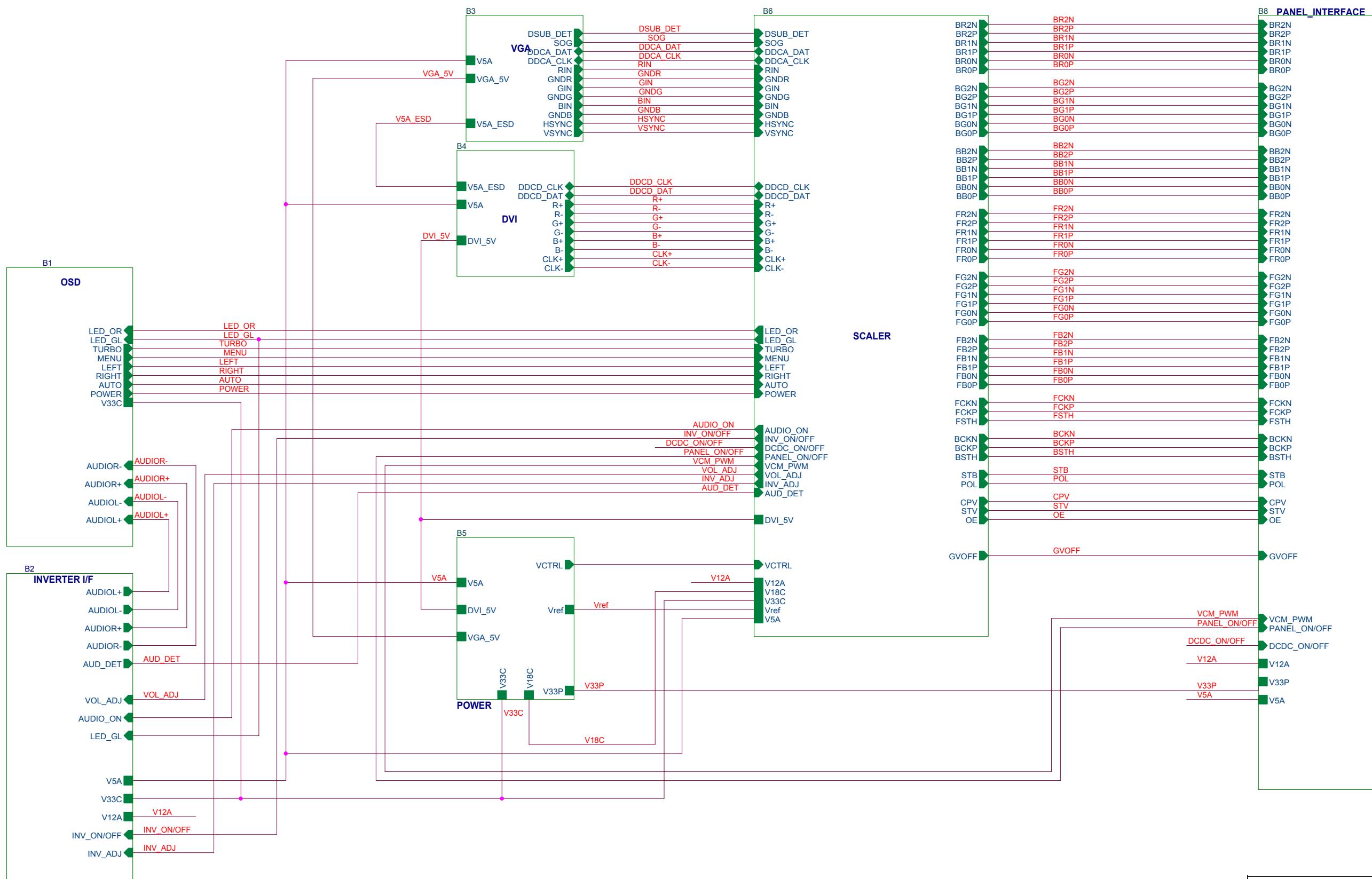
Rev: 1a

Item	ViewSonic P/N	Ref. P/N	Location	Q'ty
1	N/A	VG2021m-1	LCD Monitor	1
2	P-00002374	7841919941	PE Foam Bag	1
3	P-00005681	78-D007568	EPS Foam (Right)	1
4	P-00005682	78-D007563	EPS Foam(Left)	1
5	N/A	Different region (refer to BOM)	Carton	1
6	C-00005674	40-D007461	Seat Assy	1
7	N/A	Different region (refer to BOM)	Menu-paper	1
8	N/A	Different region (refer to BOM)	Menu-CD	1
9	CB-00005678	32F2818011	Audio Cable	1
10	CB-00004287	32F3018003	Monitor Cable(D-sub)	1
11	CB-00002083	32F0000004	Monitor Cable(DVI-D)	1
12	N/A	Different region (refer to BOM)	Power Cord	1

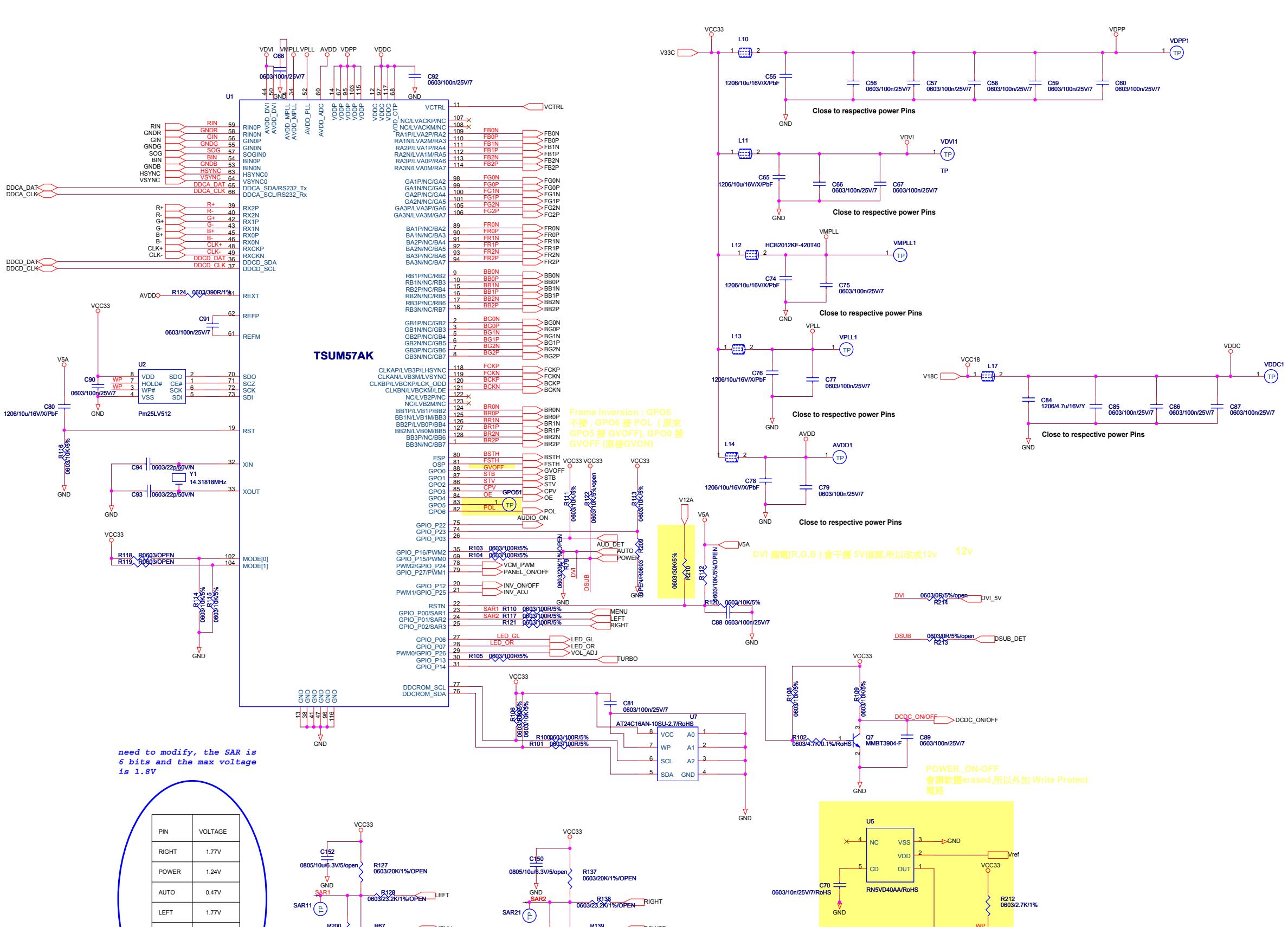
## 9. Block Diagram

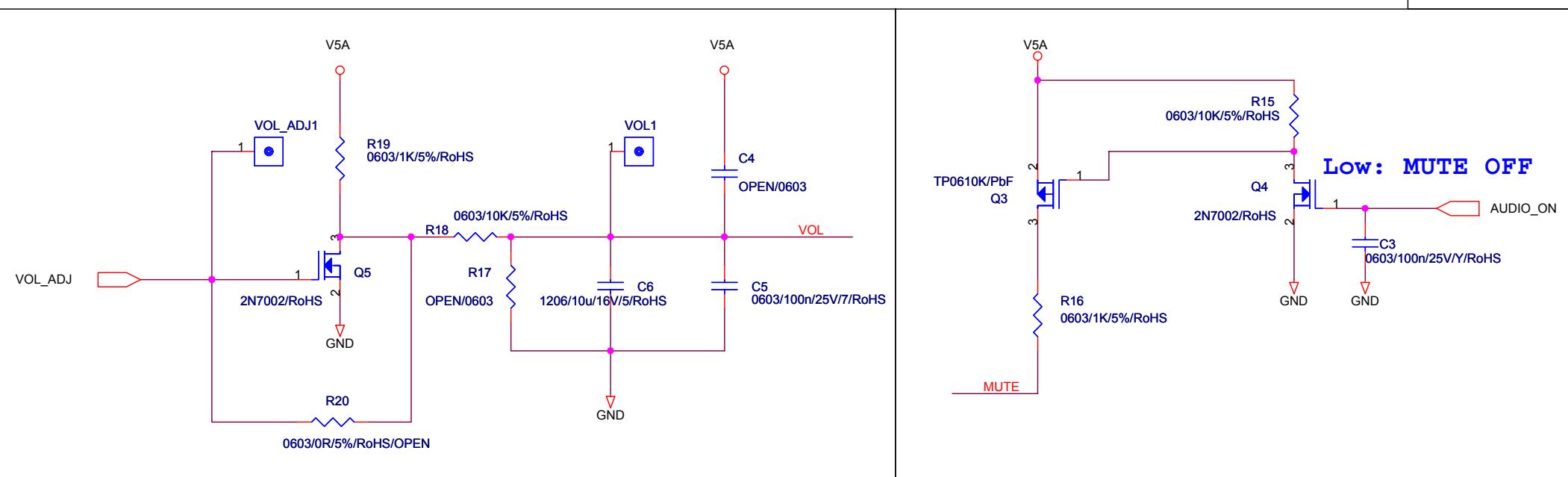
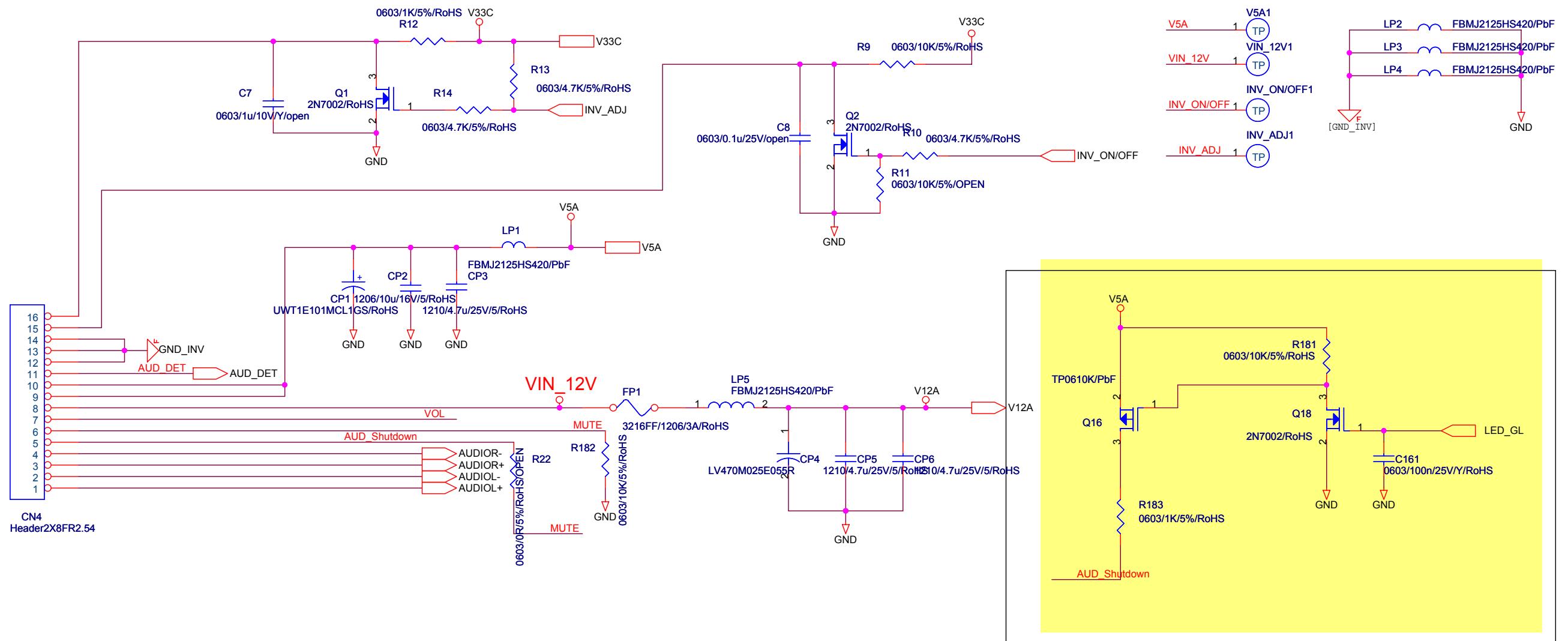


## 10. Schematic Diagrams



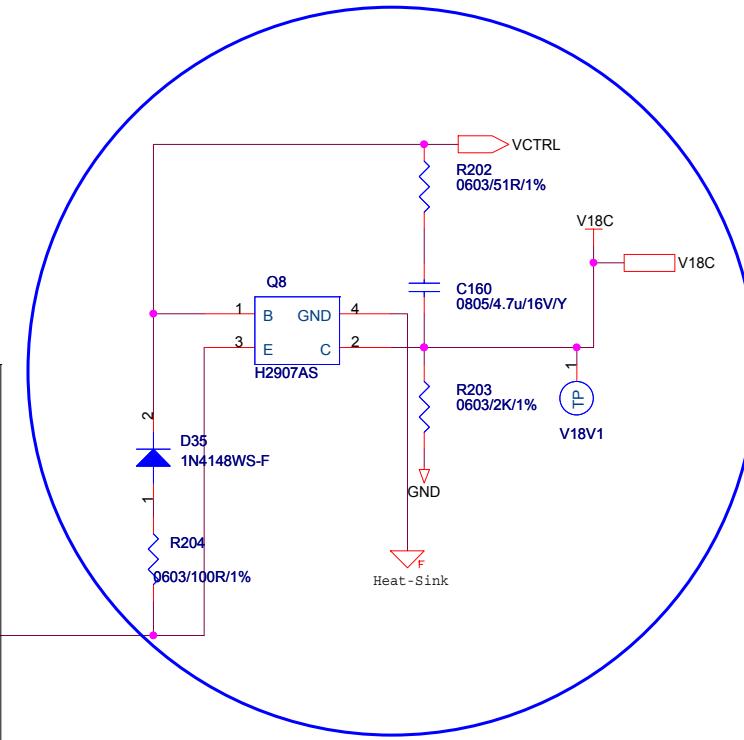
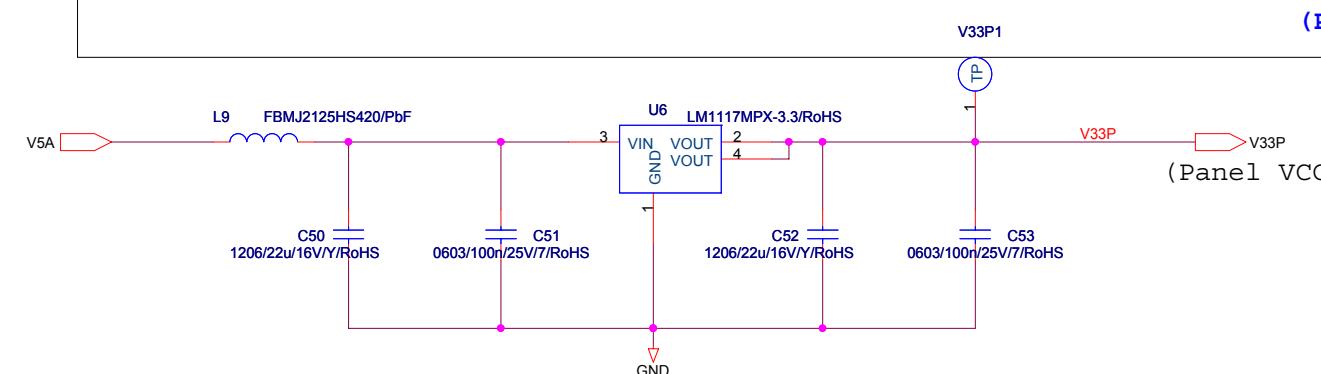
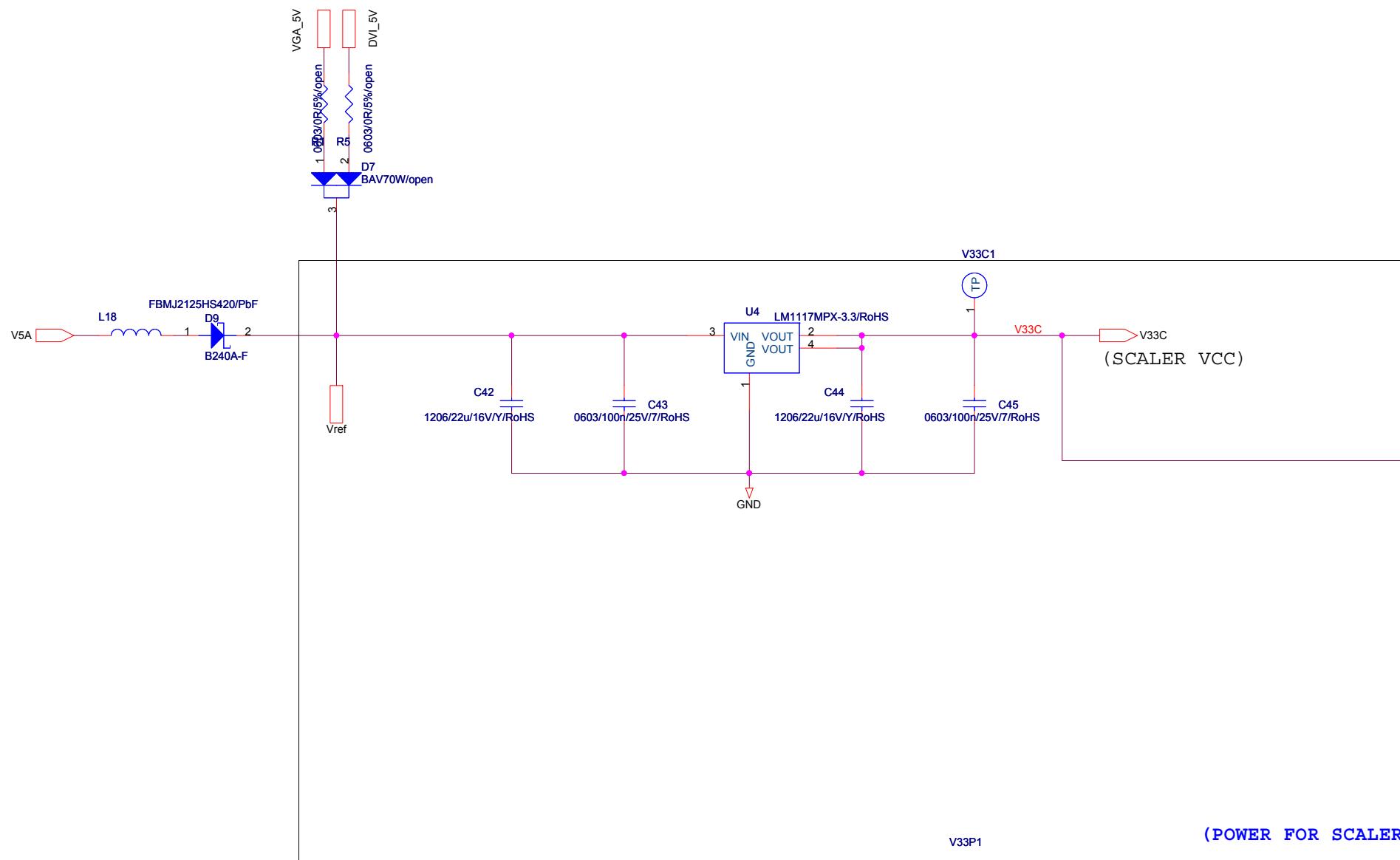
ViewSonic Corporation	
Model	
Title	
Date	Rev:



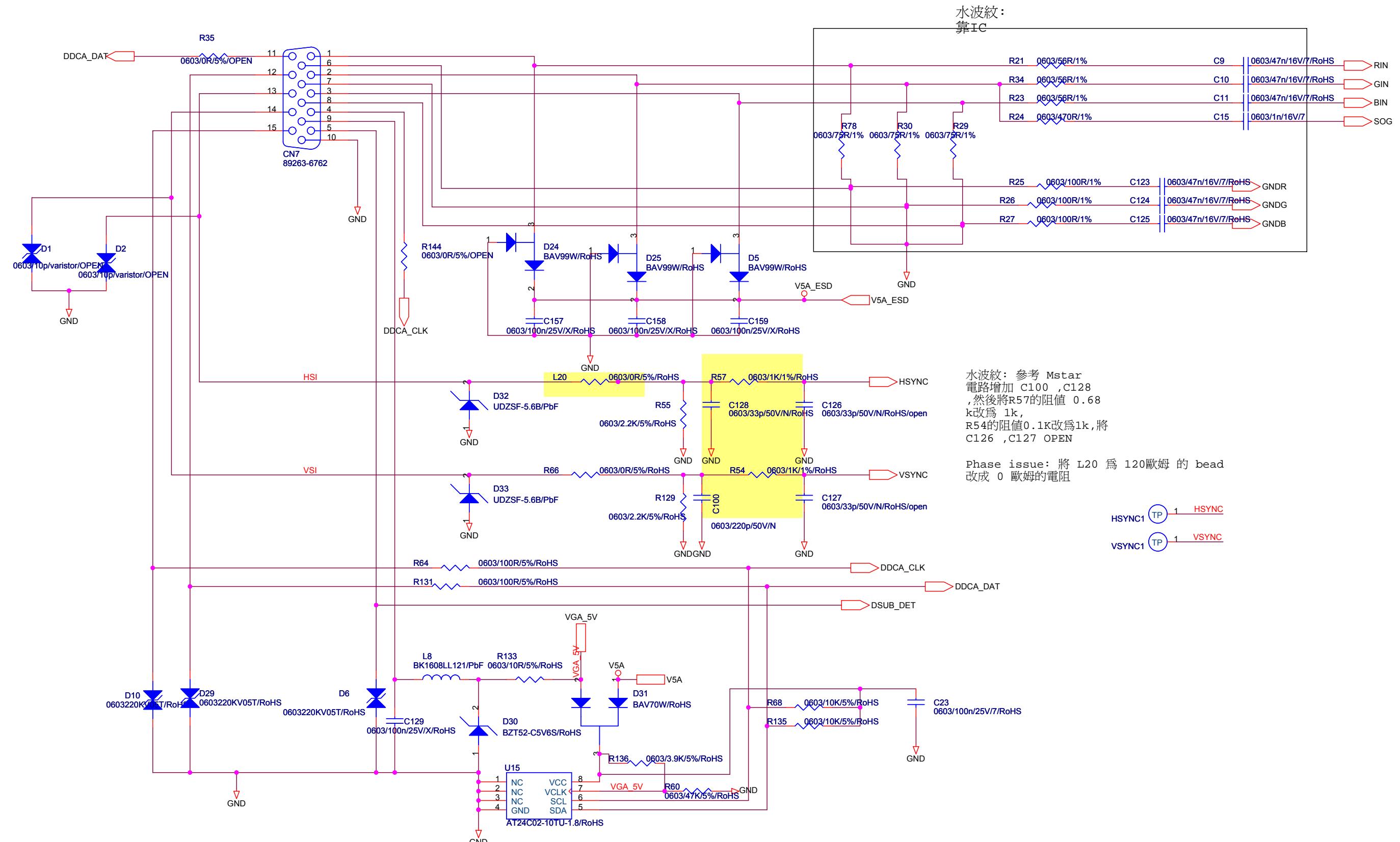


ViewSonic Corporation

Model	
Title	
Date	Rev:

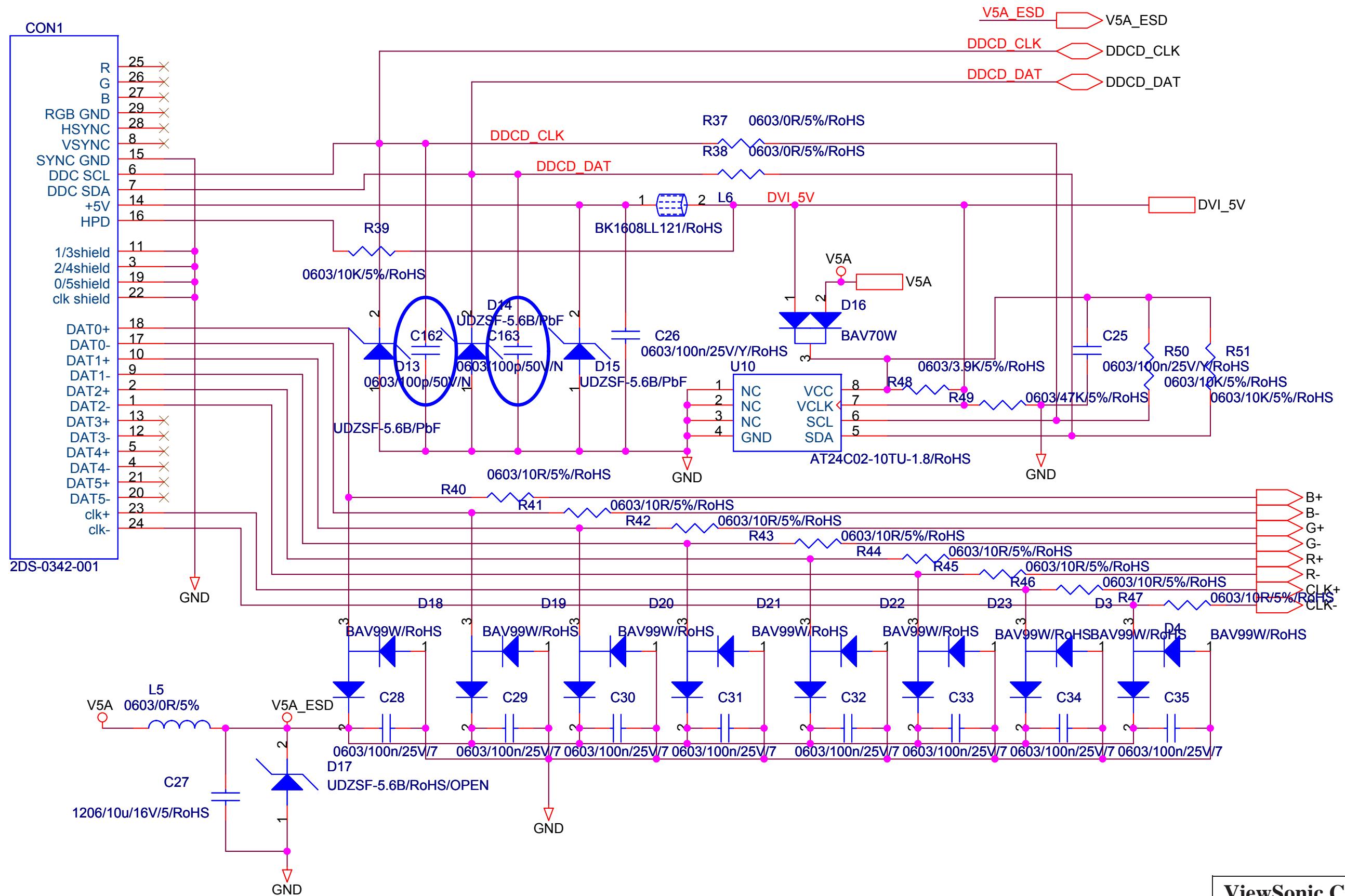


ViewSonic Corporation		
Model		
Title		
Date		Rev:



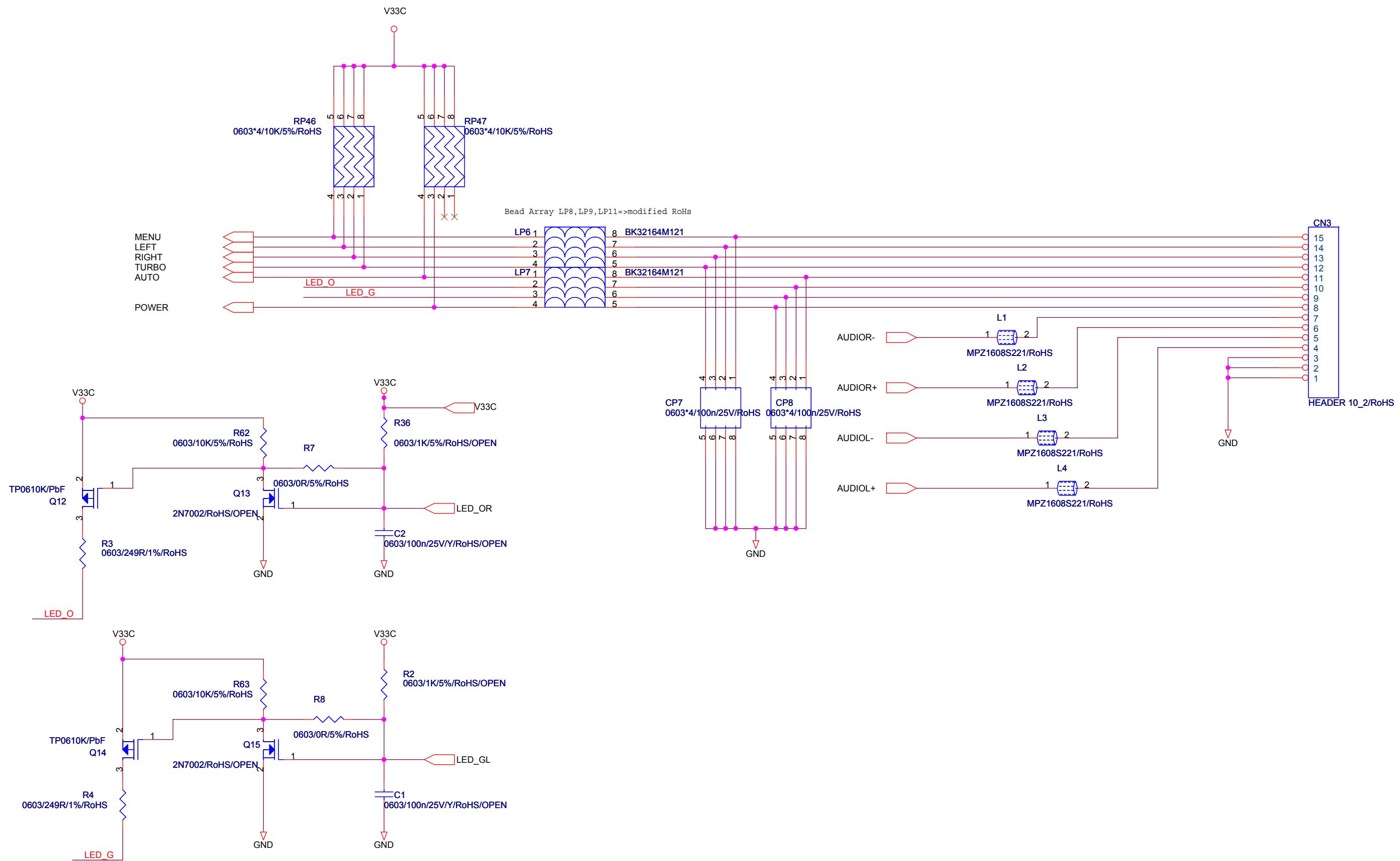
ViewSonic Corporation

Model	
Title	
Date	Rev:

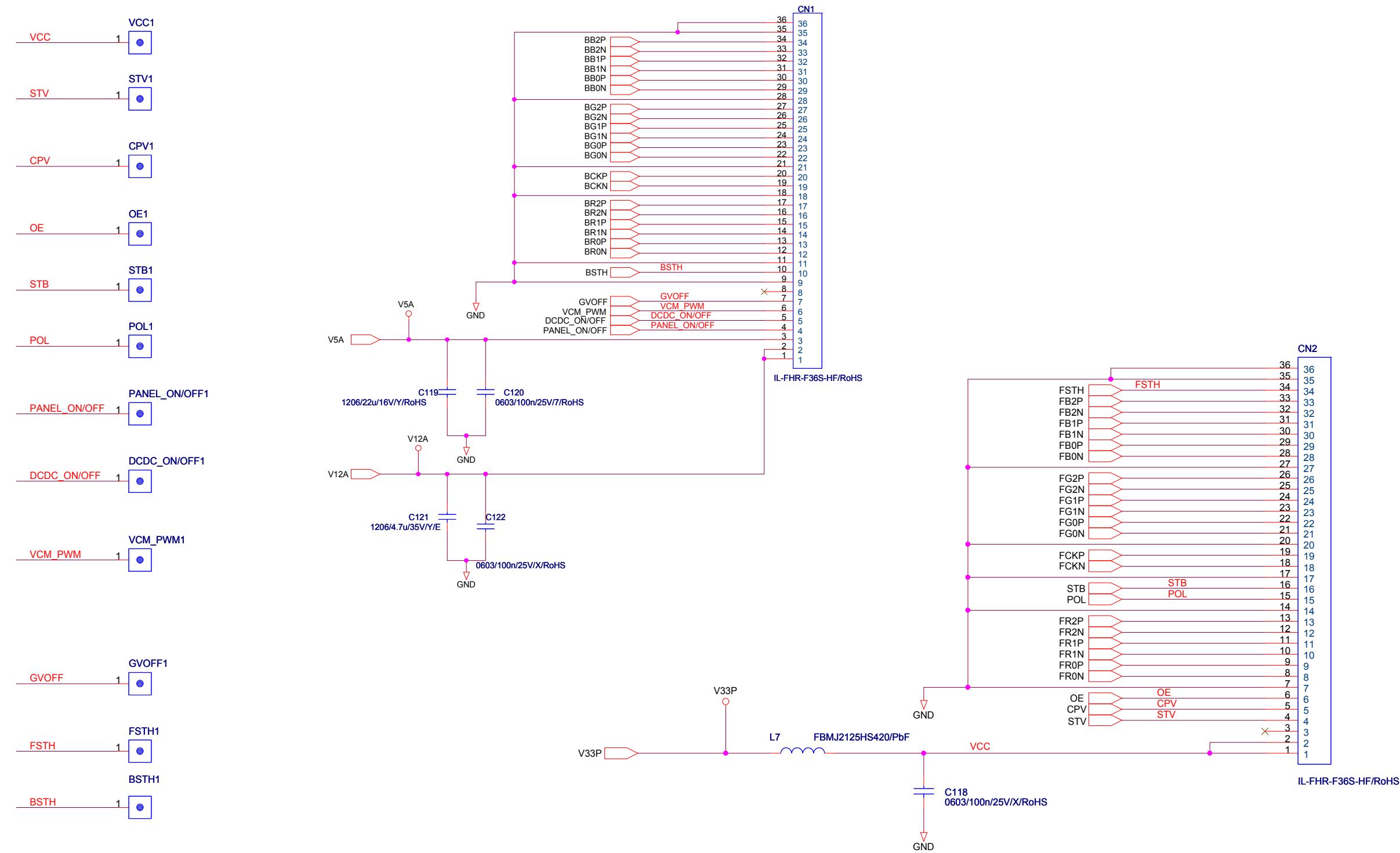


ViewSonic Corporation

Model	
Title	
Date	Rev:



ViewSonic Corporation	
Model	
Title	
Date	Rev:

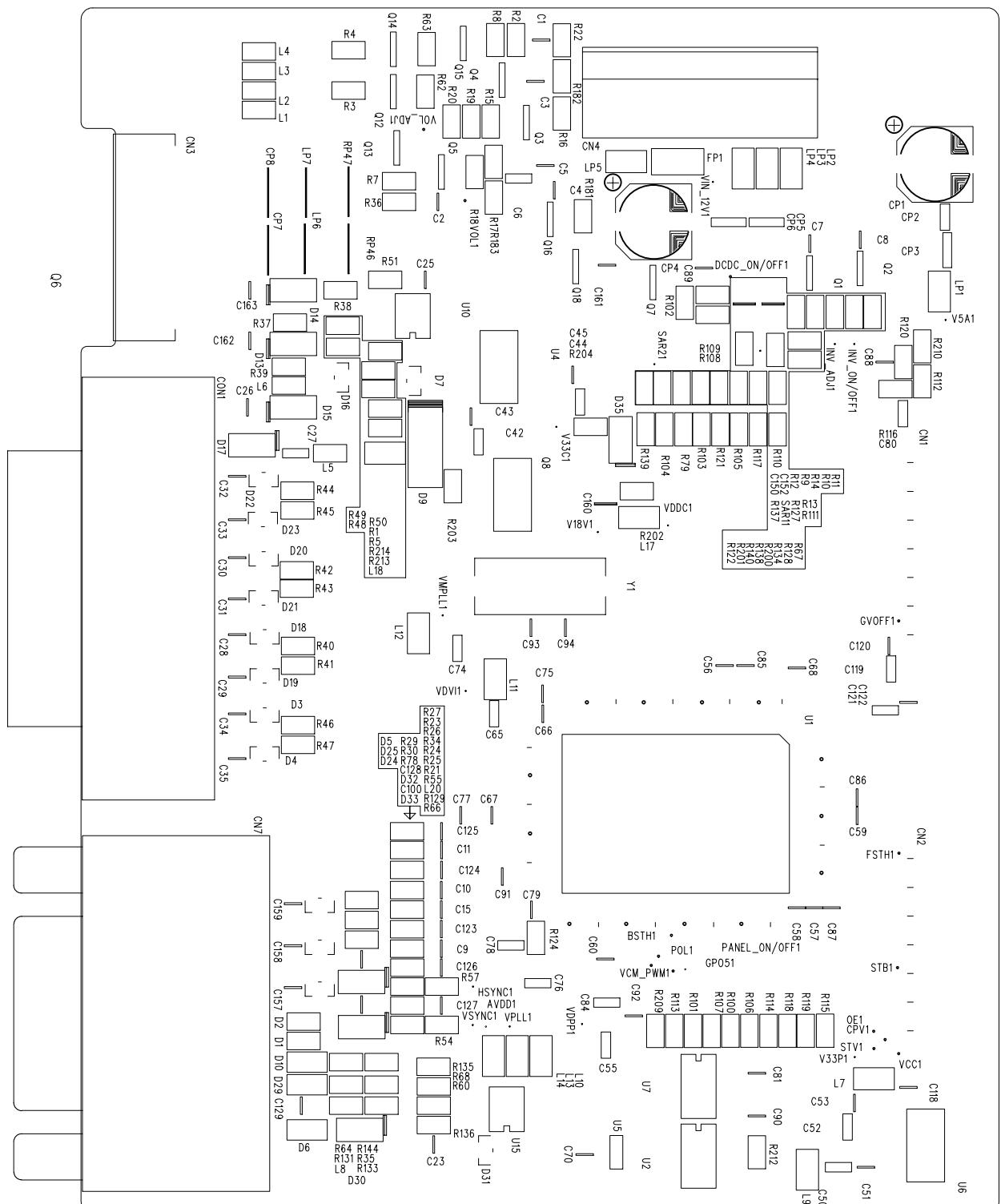


**S Board**      **X Board**

RA N/P --> BA P/N  
 GA N/P --> GA P/N  
 BA N/P --> RA P/N

ViewSonic Corporation	
Model	
Title	
Date	
Rev:	

## 11. PCB Layout Diagrams



## \* Reader's Response\*

Dear Readers:

Thank you in advance for your feedback on our Service Manual, which allows continuous improvement of our products. We would appreciate your completion of the Assessment Matrix below, for return to ViewSonic Corporation.

### Assessment

**A. What do you think about the content of this Service Manual?**

<i>Unit</i>	<i>Excellent</i>	<i>Good</i>	<i>Fair</i>	<i>Bad</i>
<b>1. Precautions and Safety Notices</b>				
<b>2. Specification</b>				
<b>3. Front Panel Function Control Description</b>				
<b>4. Circuit Description</b>				
<b>5. Adjustment Procedure</b>				
<b>6. Troubleshooting Flow Chart</b>				
<b>7. Recommended Spare Parts List</b>				
<b>8. Exploded Diagram and Exploded Parts List</b>				
<b>9. Block Diagrams</b>				
<b>10. Schematic Diagrams</b>				
<b>11. PCB Layout Diagrams</b>				

**B. Are you satisfied with this Service Manual?**

<i>Item</i>	<i>Excellent</i>	<i>Good</i>	<i>Fair</i>	<i>Bad</i>
<b>1. Service Manual Content</b>				
<b>2. Service Manual Layout</b>				
<b>3. The form and listing</b>				

**C. Do you have any other opinions or suggestions regarding this service manual?**

### Reader's basic data:

<b>Name:</b>		<b>Title:</b>	
<b>Company:</b>			
<b>Add:</b>			
<b>Tel:</b>		<b>Fax:</b>	
<b>E-mail:</b>			

**After completing this form, please return it to ViewSonic Quality Assurance in the USA at facsimile 1-909-839-7943. You may also e-mail any suggestions to the Director, Quality Systems & Processes (marc.maupin@viewsonic.com)**